

Public I

to DEIS

10.0 PUBLIC RESPONSE TO DEIS

10.1 Introduction

Public hearings on the Diamond Chuitna Coal Project draft DEIS were conducted by EPA in Alaska during August 1988. Specific dates and locations were: Anchorage (August 17, 1988), Tyonek (August 18, 1988), and Soldotna (August 19, 1988). Testimony was presented at the Anchorage and Tyonek hearings; no testimony was presented at the Soldotna hearing.

The hearing officer for all three hearings was Mr. Rich Sumner of EPA Region 10. Each hearing was opened by Mr. Sumner, who explained the NEPA and EIS process. Mr. Rick Seaborne, the Diamond Chuitna EIS project officer for EPA, then described the proposed project and the DEIS. Following these introductions, public testimony was taken. Transcripts of each hearing were kept and are available from:

Mr. Rick Seaborne
U.S. Environmental Protection Agency
Environmental Evaluation Branch, M/S WD-136
1200 6th Ave.
Seattle, Washington 98101

Testimony presented at the public hearings included support for the project by both the Municipality of Anchorage and the Archdiocese of Anchorage, a request to include a recent Kenai Peninsula Borough planning document in the EIS, concern by Tyonek residents that the existing dock at the North Forelands be considered for coal transportation, and concerns regarding the effects of offshore facilities on commercial fishing, and the effects of the project on area residents.

Written comments were received from seven individuals and organizations:

1. U.S. Department of the Interior, Office of Environmental Project Review (Department of the Interior Agencies)
2. U.S. Army Corps of Engineers, Alaska District
3. State of Alaska, Division of Governmental Coordination (State of Alaska Agencies)
4. Beluga Coal Company

5. Tyonek Native Corporation
6. Trustees for Alaska
7. Ms. Tamara Smid

The following is a list of the primary concerns raised at the DED public hearings and in written comments received during the DEIS public review period. Each comment and response is summarized in Section 10.2. Section 10.3 contains copies of written comments.

- Detailed information on the Ladd port site, eastern and northern transportation corridors is lacking.
- The North Forelands port site should not be eliminated.
- Mitigation chapter needs revision.
- Air quality analysis is not adequate. Special attention should be given to use of dust suppressant chemicals, fugitive dust from truck hauling, and enclosure of the conveyor.
- The water quality discussions need attention, especially sections dealing with location of sewage outfalls and burial of sludge, mixing zones, and the draft NPDES permits. The information contained in the EIS should be updated per current Alaska water quality standards.
- Concern still exists regarding the effect of the project on subsistence resources.
- Information in the EIS needs to be updated per the Alaska surface coal mining permit, especially sections dealing with revegetation, reclamation, soil, and topsoil.

10.2 Response to Public Comments

This chapter summarizes the comments received during the public comment period for the DEIS. These include both written and oral comments. Responses to each comment are provided after the respective comment summary. In some cases, the comment has resulted in a change to the text. The locations of these changes are indicated in the appropriate comment response. Please note that the comment summaries reference page numbers from the DEIS, not the FEIS.

- Paul D. Gates Office of Environmental Projects Review (DOI)

Comment

1. EIS should have specific ground-water monitoring plans.

Response

Applicant initiated baseline ground-water monitoring in 1982 which has continued to the present. These plans are referenced in Chapter 6.0 of the FEIS. ASMCRA Volume XVII, pages 4-232 through 4-237 discusses pre-operational and operational ground-water monitoring. Pre-operational monitoring will be implemented upon the commencement of construction and will phase into operational monitoring. Monitoring well locations appear in Map 4.12-31 (ASMCRA permit application). All wells will be monitored semi-annually for water quality. These wells are in alluvium, at springs, in the overburden, Blue Coal, Red 3 Coal, Red 2 Coal, Sub-R2 Sand, Red 1 Coal, and Sub Red 1 Sand formations. Water quality parameters include:

Total Dissolved Solids	Aluminum
pH	Antimony
Conductivity	Arsenic
Temperature	Beryllium
Total Suspended Solids	Boron
Turbidity	Cadmium
Total Hardness	Chromium
Calcium	Copper
Magnesium	Iron
Sodium	Lead
Potassium	Manganese
Ammonia-N	Mercury
Total Alkalinity	Nickel
Bicarbonate	Selenium
Carbonate	Silica
Hydroxide	Silver
Chloride	Titanium
Fluoride	Zinc
Kjeldahl-N	Phenol
Nitrate + Nitrite-N	Total Organic Carbon
Sulfate	
Ortho-phosphate-P	
Total Phosphorus-P	

Comment

2. Map faults that affect ground-water flow and discuss effect on aquifers.

Response

Faults added to Figure 2-4 in the FEIS. Effects on aquifers is discussed in Section 4.4.1 and 5.3.2.1 of the FEIS.

Comment

3. Ladd Port site is not described in as much detail as Granite Point. Must be studied and quantified (HEP or other).

Response

The configuration of the Ladd port site, i.e., facilities and their layout, would be similar to that described for the Granite Point port site. Figures 2-12 and 2-13 are generic and apply to either port site. Additional baseline environmental information for the Ladd port site has been added to Chapter 4.0 of the FEIS.

Comment

4. No comprehensive mitigation plan for each alternative.

Response

The mitigation plan included in the project proposal consisting of mitigation measures committed to by the applicant for all project components, is discussed in Chapter 2.0. The discussion of environmental consequences (Chapter 5.0) has taken these mitigation measures into account. Chapter 6.0, which has been substantially revised, summarizes the detailed mitigation, reclamation, and monitoring requirements imposed by the State of Alaska through the Alaska Surface Coal Mining Program and other permitting programs; requirements of federal and local permitting programs; and other measures which could be considered by the permitting agencies. Measures pertaining to road construction or construction of the port sites are applicable to any route or location chosen. Many site-specific details will be handled in individual agency permits.

- **Larry Reeder** U.S. Army Corps of Engineers (Anchorage)

Comment

1. Mitigation must be treated more fully. Mitigative measures in the text must be listed separately (reducing, avoiding, minimizing). Also, list mitigative requirements from the Division of Mining permit stipulations.

Response

See response to **DOI** comment #4, above. Also, Chapters 2.0 and 3.0 discuss mitigative measures which avoid, reduce, or minimize potential adverse impacts which might occur as a result of this project.

Comment

2. The detail of Ladd corridor development is not on the same level as the others.

Response

Additional information on the **Northern/Ladd** corridor is included in this document, **e.g.**, baseline environmental studies (Chapter 4.0) and preliminary engineering (Chapter 2.0 and 5.0) for the road.

Comment

3. Draft 404 (b) (1) evaluation developed by Dames & Moore left out of Appendix C.

Response

Draft 404 (b) (1) evaluation has been included in FEIS.

- **Patty Bielawski** Division of Governmental Coordination, State of Alaska

Comment

1. DEIS team should review the technical evaluation done by State of Alaska during Phase I permitting and incorporate the monitoring and mitigation developed for the mine component's first 10 years.

Response

Chapter 6.0 of the FEIS has been substantially rewritten and includes State of Alaska permitting, monitoring, and mitigation.

Comment

2. Not enough information regarding mixing zone in receiving water.

Response

See added paragraph in Section 2.3.3.1 of the FEIS. Mixing zones for turbidity are referenced in the proposed final NPDES permit or the mine area included in Appendix D of this FEIS, subject to 401 certification by ADEC.

Comment

3. Mitigation to be adopted by applicant and supported by EPA is unclear.

Response

See Chapter 2.0 and revised FEIS Chapter 6.0. See also responses to DOI comment #4 and ACE comment #1 above. Mitigation measures are required in the state mining permit, other state permits, EPA, and COE permits.

Comment

4. Mitigation should be formulated by a federal/state/ applicant forum.

Response

A federal/state/applicant meeting was held 11/1/88 to discuss mitigation. The agencies subsequently reviewed the revised Chapter 6.0 (Mitigation, Reclamation, and Monitoring) and the preliminary FEIS.

Comment

Page S-2

5. Conveyor should be covered on all sides; not just at stream crossings.

Response

The conveyor is covered by a dome-shaped top and on the windward side to prevent wind dispersion of coal and fines from the belt. One side is left open below the belt to allow visual inspection and maintenance access to the rollers and the belt. Coal and fines cannot pass through the belt to fall under the conveyor. However, as an added level of safety, "pans" are put under the conveyor at

stream crossings. At an unusually sensitive area such as the Chuitna River crossing, the conveyor is completely enclosed for maximum safety.

Comment

Page 2-9

6. FEIS should address the necessity of a mixing zone to meet Alaska Water Quality Standards.

Response

Paragraph added to Section 2.3.3.1 discusses the applicability of mixing zones. Mixing zones for turbidity are referenced in the permit for the mine area which is included in Appendix D of this FEIS subject to 401 certification by ADEC.

Comment

Page 2-14, Fig. 2-4

7. Figure and statements regarding treatment systems for sediment ponds should be revised per state's stipulations.

Response

Figure 2-4 of the FEIS has been revised. Wording added to Section 2.3.5 of the FEIS per ASMCRA stipulations.

Comment

Page 2-15

8. Figure 2-7 and Figure 2-10 do not agree regarding buried moose crossings on bluffs at Chuitna River crossing.

Response

The crossing shown on Fig. 2-7 (DEIS and FEIS) is just outside the area shown in Fig. 2-10. The map scales of the map and the artist's conception differ from one another.

Comment

Page 2-16, Fig. 2-8

9. Gravel sources must be more clearly delineated and explanation provided regarding why they are the best locations.

ResDonse

Material sites have been selected on the basis of the gravel available and proximity to areas where gravel is needed. Further delineation will be provided in the state lease process prior to gravel extraction.

Comment

Page 2-19

10. "Partially enclosed" conveyor needs further explanation.

ResDonse

See response to comment 5 pertaining to page S-2.

Comment

11. Distance or design criteria established for southern corridor cannot necessarily be transferred to other corridors. (related to buried animal crossings)

Response

The criteria for moose crossings for the southern corridor are consistent with criteria established for crossing designed elsewhere in Alaska (see Van Ballenberghe 1977; Eide and Miller 1979). Therefore, the criteria can be applied to the northern or eastern corridor as well. The Diamond Chuitna project would provide crossings at a frequency of about 1.7 per mile plus all stream crossings. Moose crossing structures were set at an average of one per mile on the trans-Alaska oil pipeline; it was demonstrated that moose passage was achieved. Adjusting the location of specific crossings to coincide with existing moose trails on all road and conveyor alternatives would provide even better accommodation of seasonal moose movements. Detailed wildlife utilization patterns will be confirmed by the wildlife monitoring program during the first two years of road operation.

Comment

Page 2-25, 2-44

12. Document should reference fuel handling standards, i.e., 100% of capacity of largest tank and 12" of freeboard.

Response

The Spill Prevention, Control and Countermeasure (SPCC) plan will be written to incorporate federal and state fuel handling standards. New wording added to Section 2.10.3 of the FEIS.

Comment

Page 2-27

13. Burial of sludge requires coordination with ADEC regulations regarding stabilization.

Response

Noted.

Comment

Page 2-30

14. Paragraph 6, statement regarding covering unsuitable soil should be removed. (per DACC agreement with state)

Response

Wording removed from Section 2.8.1.1 of the FEIS.

Comment

Page 2-34

15. Why is the fish mitigation plan and not the wildlife plan discussed here?

Response

Mitigation measures pertaining to wildlife are found throughout Chapter 2.0, but appear primarily in the discussions of revegetation, reclamation, and the transportation system. Chapter 6.0 also discuss mitigation measures for wildlife. Mitigation measures for fish are listed separately in Chapter 2.0 because it was more convenient to present the information in a tabular form in one place in the chapter.

Comment

Page 2-39, 2-41

16. Cleared trees must be peeled and stacked for the first 2 years to prevent beetle infestation before burning in the mine pit can commence.

Response

Trees susceptible to spruce bark beetles will be limbed and left in non-shady locations for no more than 1 year before being buried or burned.

Comment

Page 2-41

17. Mitigation and erosion control after clearing conveyor corridor must be discussed.

ResDonse

Additional wording has been added to Section 2.9.3.2 to indicate that ground cover will be left in place where feasible to provide erosion protection. Revegetation is discussed in Section 2.8 and 2.9.3.2.

Comment

Page 2-46

18. Paragraph 4; Chemical dust suppressants must be identified as well as environmental considerations.

ResDonse

Chemical dust suppressants to be used will be magnesium chloride or calcium chloride. It is anticipated that they will be used only when rainfall or application of water is insufficient, probably only once or twice a year. Effects on aquatic and terrestrial resources are expected to be negligible.

Comment

Page 3-6

19. FEIS should recommend against long term truck hauling of coal due to effects on wildlife and air quality.

Response

Chapter 3.0 of the DEIS analyzes a number of project component options, including optional methods for transporting coal from the mine to the port site. The comment refers to one of these options, which would entail the use of haul trucks to transport coal throughout the life of the project. The adverse impacts to wildlife and air quality that would occur if haul trucks were used to transport coal to and from the port site at full production are discussed in the DEIS (pages 3-17 to 3-21).

This option, which would include 311 round trips per day by haul trucks at full production, was eliminated from further consideration as discussed in Chapter 3.0 and is not proposed nor considered as an alternative in the DEIS.

The proposed project, as analyzed in Chapter 5.0 entails construction of a coal conveyor which would be used to transport the coal to the port site. The DEIS analyzes the air quality impacts associated with 99 round trips by haul trucks (to and from the port site) per day. This is the maximum number of trips predicted during the period the conveyor is being constructed (at a production of 4 million tons per year). The conveyor would subsequently be used to transport coal to the port up to the maximum production level of 12 million tons per year.

As stated on page 5-53 of the DEIS, construction and temporary emissions must comply with the National Ambient Air Quality Standards but are exempt from the Prevention of Significant Deterioration (PSD) increments. These would include fugitive dust emissions from the haul road during this period the conveyor is being constructed.

Comment

Page 3-13

20. Weighing wildlife impacts on basis of acreage removed is simplistic: Attention should be paid to location and orientation of migration pathways, critical habitat, etc. to conveyor and roads.

Response

Wildlife impacts were weighed on the basis of several factors including direct habitat removal, quality of habitat, indirect habitat loss, and effect on animal movements as stated in Section 5.3.1.5 and Appendix A.

Comment

Page 3-16

21. No data to support conclusion that effect of Northern/Ladd option on animal movements would be moderate.

Response

The effects of both the Northern/Ladd and Eastern/Ladd option were judged to be moderate because both routes are generally at right angles to major large animal movements at lower elevations. Right angle crossings are generally considered to be less disruptive than routes which

parallel animal migrations. The planned frequency of special wildlife crossings (nearly 2 per mile) is greater than applied on the trans-Alaska oil pipeline. Impacts to wildlife movements as a result of TAPS was minimal. Bear and moose are likely to encounter the Northern/Ladd and Eastern/Ladd routes more often than they would the Southern/Granite Point route. However, with adequately designed and spaced large mammal crossings, the differences between these options would be minimal.

Comment

Page 3-19

22. Applicant hasn't committed to building moose crossings along the conveyor route to Ladd. Must reference this as mitigation.

Response

The applicant has committed to building moose crossings at stream crossings and other locations along the road and conveyor system for the southern, eastern and northern corridors. See Section 2.4.2 of the FEIS.

Comment

Page 3-33/35

23. FEIS must explain what applicant will do if NEPA preferred alternative and ROD differ from applicant's proposal regarding the conveyor/transportation route.

Response

All three alternative transportation routes, including the "northern/Ladd", "eastern/Ladd", and "southern/Granite Point" routes, were compared in Chapter 3.0 of the DEIS. The "preferred alternative", as designated in the DEIS and FEIS, incorporates the eastern/Ladd transportation route. Because the applicant has been unable to negotiate a right-of-way agreement for this route the two remaining alternative corridors (northern/Ladd, and southern/Granite Point) were directly compared to determine which of these two routes were preferable if eastern/Ladd were not developable. To eliminate possible confusion over the use of the term "secondary preferred alternative" (pages S-9 and 3-34 of the DEIS), this term has been eliminated from use in the FEIS. This does not in any way alter the comparative evaluation of the alternatives or conclusions leading to designation of the preferred alternative.

EPA and the Corps will issue separate Records of Decision (RODs) subsequent to issuance of the FEIS. A brief description of factors considered in RODs is provided on page 1-2 of the DEIS. Alternative permitting decisions available to the agencies are described on page 3-39 of the DEIS. The final EPA and Corps permit decisions will be made after the FEIS is issued and will be reflected in the respective RODs. The RODs will discuss the alternatives analyzed in the EIS and will designate an "environmentally preferred alternative".

With respect to the Diamond Chuitna project alternatives, EPA's ROD will indicate EPA's final NPDES permit action with respect to the two alternative port sites (Granite Point and Ladd). EPA's permit action could entail either the granting of an NPDES permit (for either port) or denial of the permit. The Corps' Section 10/404 permitting authority extends to both the ports and the transportation corridors. The Corps' permitting decisions respective to these project components will be reflected in the Corps ROD.

The environmentally preferred alternative, as designated in the agency RODs, may or may not be the alternative for which permits are granted. The RODs will include a discussion of any factors that were considered in making the permit decisions, taking into account the agency's statutory missions, economics, and feasibility questions. The RODs will also state what means to avoid or minimize environmental impacts were adopted through the permit actions, and the rationale.

Comment

Page 4-1

24. Paragraph 3: Moquawkie Indian Reservation was established in 1915, not 1934.

Response

Text has been corrected on p. 4-1 of the FEIS.

Comment

Page 4-17

25. Paragraph 2: Statement in first sentence must be expanded to explain that the Lone Ridge moose population is not small. Rut concentration has not been adequately explained. Also, reference fact that very little information regarding Lone Ridge rut concentration exists.

Response

See revised paragraph in Section 4.3.3.2 of the FEIS.

Comment

Page 4-29

26. Explain how floods of Oct.'86 compare to maximum recorded flood in Sept.'76.

Response

Section 4.4.2.4 of the FEIS has been revised to reflect this new data.

Comment

Page 4-65

27. Paragraph 3: KPB is classified as "non-rural" indicating that subsistence is not a major part of economy. Subsistence is only important in certain areas, not whole KPB.

Response

Wording changed to clarify paragraph in Section 4.7.1.2 of the FEIS.

Comment

Page 4-89

28. Paragraph 2: Winter moose hunt was subsistence and recreational from 1983 to 1985; it is now subsistence only.

Response

Wording added to paragraph in Section 4.10.2 of the FEIS.

Comment

Page 5-11

29. Direct loss of moose can occur from moose/vehicle collisions.

Response

Section 5.3.1.5 addresses only the mine and mine facilities; most moose/vehicle collisions would occur in the transportation corridors.

Comment

Page 5-19

30. If proper construction and materials are used, ground water should not be degraded by leakage from sewer lines and sewage treatment plant. "Somewhat poorer" water quality resulting from mining should be more fully explained, ref. ASMCRA permit application Vol. XVII.

Response

Reference deleted from Section 5.3.2.1 of the FEIS. Wording added to Sections 5.3.2.1 and 5.6.1.2 of the FEIS per ASMCRA.

Comment

31. Mention possibility that natural stream temperatures and icing conditions could be modified by mine development.

Response

See response to Smid comment #7. Temperature changes are expected to be less than 1° C from normal in the winter. Icing changes with this small temperature change are expected to be minimal.

Comment

Page 5-20

32. Surface water runoff in developed areas must meet Alaska Water Quality Standards; how will this be accomplished in areas outside the ASMCRA permit area?

Response

Proposed treatment of surface runoff outside ASMCRA area is reflected in the draft NPDES permits for the port alternatives and housing area (Appendix D). At the port sites and the housing facilities, runoff water will be collected in sediment ponds. The discharge from these ponds must meet state requirements. In areas of road construction, runoff will be controlled by: a) good construction practices, b) good erosion control practices, (e.g., sediment fences, revegetation, etc.), and c) minimization of surface disturbance as described in Sections 2.4, 2.5, and 2.6 of the FEIS.

Comment

Page 5-25, 5-35

33. Discussion concerning water quality standards must be expanded.

Response

Discussion has been expanded; see section 5.3.2.3.

Comment

Page 5-28

34. The most stringent water quality standards apply. Oil and grease must be addressed here.

Response

This section is a discussion of EPA criteria for discharges from sediment ponds (i.e., federal effluent limitations as opposed to State of Alaska receiving stream criteria). The NPDES effluent limitation for pH is 6.0 to 9.0 (Appendix D) as stated in Section 5.3.2.3. Oil and grease limitations have been added to Section 5.3.2.3.

Comment

Page 5-30

35. Mixing zones must be addressed as well as water quality contingency plan required by state.

Response

Wording added to Section 5.3.2.3 (General Criteria) of the FEIS regarding mixing zones and compliance. The state water quality contingency plan is an ASMCRA requirement and is discussed in section 6.2.1.1 of the FEIS.

Comment

Page 5-31, 5-34, 5-81

36. Discrepancy between table 5-8, 5-9, and 5-25 and the standards. Also levels of hydrocarbons, oil and grease, turbidity and settleable solids are not included.

Reswone

The commentor cites information from EPA's Quality Criteria for Water 1986 (Gold Book) regarding chronic "criteria" for arsenic and copper. The concentrations cited are from a table entitled, "Water Quality Criteria Summary." However, the concentrations cited (as noted in this table) are "lowest observed effect level" (MEL) values. MEL values are not necessarily the criteria because these values are species specific. Furthermore, states are allowed to interpret information in EPA publications to derive specific criteria. In this case, the values cited by the commentor are not the Alaska criteria. This becomes apparent if one reads the text of the Gold Book rather than relying on the Water Quality Criteria Summary table. Using arsenic, for example, the commentor states that fresh water and marine water chronic criteria for arsenic are 48 and 5 ug/l, respectively. The commentor fails to note these values are only for arsenic (V). Regarding fresh water, the Gold Book states, "Not enough data are available to allow derivation of numerical national water quality criteria for freshwater aquatic life for inorganic arsenic (V)... Arsenic (V) affected freshwater aquatic plants at concentrations as low as 48 ug/l."

Also, corrections have been made on Tables 5-8, 5-9, and 5-25 in the FEIS. The parameters listed in Tables 5-8, 5-9, and 5-25 are based on all the available information at the time the DEIS was written. At that time, it was anticipated that coal leachate presented the highest potential for degrading receiving stream water quality. Therefore, these tables include all the parameters analyzed in Diamond Alaska Coal Company Column and Drip Leach Study performed by Bookcliffs (1985). Although turbidity and settleable solids were not measured in this study, total suspended solids were and appear in the tables. Hydrocarbons and oil and grease were also not measured in the Bookcliffs study. It should be noted that the EPA criteria for oil and grease have been added to Section 5.3.2.3 Surface Water Quality, General Criteria.

Comment

Page 5-32

37. DEIS does not specify if, how and what flocculants will be used.

Response

Additions made to Section 5.3.2.3 of the FEIS, "Mine Site Runoff" and "Pit Drainage". Several flocculants have been tested using soils from the mine site. The flocculants (polyethylene oxide, lime, ferric chloride and ammonium sulfate) all performed well under certain conditions. The choice of which will be used depends on the nature of suspended solids. This will vary in different areas and stages of the project. The choice of an individual flocculent will depend on actual field data obtained during construction and operation.

Comment

Page 5-33

38. DEIS should reference applicant's commitment to pump only from in-pit sumps when discharge can meet Alaska Water Quality Standards.

Response

Addition made to Section 5.3.2.3, "Pit Drainage" of the FEIS.

Comment

Page 5-69

39. Paragraph 1: Discuss all potential effects of subsistence in one section.

Response

The document is organized so that the effects of each project component on subsistence is discussed separately. Therefore, the entire subsistence discussion is not consolidated under Section 5.3 which deals only with the mine and mine area. References to following sections have been inserted in Section 5.3 of the FEIS.

Comment

Page 5-69

40. Paragraph 4: DEIS prediction of no drastic decline in moose abundance is unsubstantiated. Reference state monitoring program.

Response

Section 5.3.7.2 of the FEIS has been reworded.

Comment

Page 5-80

41. State standards do not allow ground-water mixing; this section should be rewritten.

Response

See additional wording in Section 5.4.1.2 of the FEIS. Also, the commentor is correct regarding the use of ground-water dilution to achieve water quality standards. The intent of this narrative was to explain that some parameters may periodically exceed their criteria for the protection of aquatic life as the water infiltrates toward the ground-water table. Even if this water resurfaces before reaching the ground-water table, the volume of seepage into a stream or lake would be low, resulting in no adverse impacts to aquatic life.

Comment

Page 5-85

42. Effect of sediment loading on Cook Inlet due to this project must be addressed.

Response

This comment was directed to Section 5.4.1.2 but should have been directed to Section 5.4.1.3, Marine Water Quality. See additional wording in Section 5.4.1.3 of the FEIS.

Comment

Page 5-86

43. Use and disposal of solvents in repair and maintenance shops is not addressed.

Response

See additional wording in Section 5.4.1.2 of the FEIS. Oil and grease traps at the mining facilities are designed to handle the full anticipated output with a large safety factor added. In addition, oil skimmers at the ponds would be used if the traps malfunctioned.

Comment

44. Removal of oil and grease from sediments if trap fails or inadequate operation is not addressed ponds.

Response

See additional wording in section **5.4.1.2** of the FEIS regarding installation of **skimmers** and disposal of oily waste.

Comment

Page **5-114**

- 45.** Further review of ground-water effects is needed for housing leach field.

Response

This subject will be addressed in the ADEC permitting process.

Comment

Page **5-115**

- 46.** Table **5-27** omits important water quality parameters.

Response

Table **5-27** has been amended in the FEIS. In addition, the commentor notes that Table **5-27** did not include TSS, dissolved oxygen (DO), fecal coliform, or chlorine. The proposed final NPDES permit (Appendix D) has limits on BOD, TSS, and pH. Therefore, TSS have been added to the table; pH is included in the proposed final NPDES permit.

DO concentrations in the effluent will not be low enough to cause an adverse oxygen demand on the Chuitna River. Assuming the discharge is at room temperature means there could easily be 8 to 9 **mg/l** DO in the effluent. Furthermore, the BOD concentration of **19 mg/l** will not create a large enough oxygen demand in the river to significantly reduce ambient DO levels in the river. Recall that BOD is exerted over 5 days at optimum conditions and these conditions will not exist in the river.

Fecal coliform bacteria levels in domestic waste discharges are a function of the adequacy of disinfection techniques. Chlorine is commonly used for disinfection. A chlorine residual of **0.1 mg/l** is commonly maintained. Secondary waste treatment package plants and a trained operator will result in less than **200** fecal coliform colonies per milliliter (the EPA limit for domestic waste) being discharged. The expected chlorine concentration in the effluent will be approximately **0.1 mg/l**.

Comment

47. Data and justification for mixing zone is not provided.

Response

See response for comment 82 below.

Comment

Page 5-116

48. Move subsistence discussion to 5-69.

Response

See response for comment 39 above.

Comment

Page 5-117

49. Agree that restrictive harvest regulations could affect Tyonek's subsistence opportunities.

Response

Noted.

Comment

Page 5-123

50. Paragraph 2: In mild winters, moose also use habitat near Congahbuna Lake.

Response

Noted in section 5.6.2.1 of the FEIS; Section 5.6.3.1 refers to Threemile housing site, not Congahbuna.

Comment

Page 5-125

51. Include all subsistence discussion in one section.

Response

See response for comment 39 above.

Comment

Chapter 6.0

52. Further definitions of "**increased**" and "**decreased emphasis**" regarding mitigation are required.

Response

Reference to "increased" and "decreased emphasis" have been removed from Chapter 6.0..

Comment

Page 6-4

53. Citation should be changed to **11 AAC 90.311** (e).

Response

Chapter 6.0 of the FEIS has been substantially rewritten; to reflect the final ASMCRA permit requirements.

Comment

Page 6-3/4

54. DEIS does not reflect final surface mining permit stipulations regarding soils.

Response

Chapter 6.0 of the FEIS has been revised to reflect the final ASMRCA permit requirements regarding soils.

Comment

Page 6-5

55. Revegetation discussion should be revised to reflect plan in the Permit Application (Vol. XVI).

Response

Chapter 6.0 of the FEIS has been revised to reflect final ASMCRA permit requirements regarding revegetation.

Comment

Page 6-6

56. Incorporate wildlife mitigation plan from surface mining permit.

Response

Wildlife plan from ASMCRA permit is discussed in revised Chapter 6.0 of the FEIS.

Comment

57. Paragraph 2: Performance standards for reclamation success have been established in the surface mining permit.

Response

ASMCRA permit has been referenced in revised Chapter 6.0 of the FEIS.

Comment

Page 6-7

58. Paragraph 2: FEIS should specify standards for habitat enhancement.

Response

The FEIS (Section 6.4.1.2) recommends that habitat enhancement measures similar to that within the ASMCRA area be employed for areas outside the boundary. The reader is referred to Chapters 2.0 and 6.0 for further discussions of specific measures outside the ASMRCA permit area.

Comment

59. Paragraphs 3, 4, & 5: Conveyor access road should be regularly cleared of snow to encourage moose to use it rather than haul road.

Response

The conveyor access road will be continually cleared of snow since there must be a visual inspection of the conveyor every shift (3 to 4 times daily).

Comment

60. Paragraph 6: Include documentation regarding plastic balls on cables and other methods of keeping birds from striking cables and wires.

ResRonse

Reference to plastic balls has been removed from Chapter 6.0 of the FEIS.

Comment

Page 6-8

61. Paragraph 4: Proposal that return flows to streams be managed to optimize down stream flow conditions was rejected in surface mining permit.

ResRonse

Chapter 6.0 of the FEIS has been revised to reflect ASMCRA permit.

Comment

Page 6-9

62. Paragraph 2: A wetland restoration plan was required under the surface mining permit.

ResRonse

Chapter 6.0 of the FEIS has been revised to reflect the final ASMCRA permit requirements.

Comment

63. Paragraph 3: Reference commitments regarding restoration of mined out stream systems in Permit Application (Vol. XVII).

ResRonse

Chapter 6.0 of the FEIS has been revised to reflect the final ASMCRA permit requirements.

Comment

64. FEIS should recommend reclamation of mined out streams as mitigation for loss of fish habitat in areas to be mined in years 11 through 30 of the operation.

Response

Section 6.4.2.3 of the FEIS makes this recommendation.

Comment

65. Detailed engineering designs for stream reclamation should be distributed to interagency forum as soon as available.

Response

Noted. This will be handled through state agency permitting process.

Comment

Page 6-10

66. Paragraph 2: Mitigation plans for sediment ponds are found in surface mining permit.

Response

Chapter 6.0 of the FEIS has been revised to reflect the final ASMCRA permit requirements.

Comment

Page 6-11

67. Paragraph 3: A mitigation program to compensate for unavoidable loss of fish productivity is required by surface mining permit (Stip. 14).

Response

Chapter 6.0 of the FEIS has been revised to reflect the final **ASMCRA** permit requirements.

Comment

Page 6-14

68. Paragraph 1: See Vol **XVI** for soil monitoring plan.

Response

Chapter 6.0 of the FEIS has been revised to reflect the final ASMCRA permit requirements.

Comment

Page 6-14

69. Paragraph 2: Annual revegetation monitoring required under surface mining permit.

Response

Chapter 6.0 of the FEIS has been revised to reflect the final ASMCRA permit requirements.

Comment

70. Paragraph 3: Additional monitoring recommended to determine success of habitat enhancement, crossings of conveyor, effects on Beluga moose population.

Response

ADF&G will conduct a 3 year telemetry study beginning 2 years prior to mine construction, supplemented by aerial population surveys. Fall trend counts will help evaluate the success of moose crossings, moose rutting activity, and habitat use.

Comment

71. Paragraph 4: Surface mining permit requires continuous flow monitoring at 7 locations (Stip. 18).

Response

Chapter 6.0 of the FEIS has been revised to reflect the final ASMCRA permit requirements.

Comment

Page 6-15

72. Paragraph 1: ASMCRA permit (Stip. 17) requires annual evaluation of ground- and surface water monitoring programs.

Response

Chapter 6.0 of the FEIS has been revised to reflect the final ASMCRA permit requirements.

Comment

73. Paragraph 2: ASMCRA permit requires extensive ground water monitoring program.

Response

Chapter 6.0 of the FEIS has been revised to reflect the final ASMCRA permit requirements.

Comment

74. Paragraph 3: SMP requires extensive monitoring of water quality of effluents from mine drainage system and receiving streams (Permit Application Vol. XVII).

Response

Chapter 6.0 of the FEIS has been revised to reflect the final ASMCRA permit requirements.

Comment

Page 6-16

75. Paragraph 4: ASMCRA permit addresses all the points raised in the DEIS.

Response

FEIS has been revised to reflect ASMCRA permit. ASMCRA covers only mine area; EIS has wider geographic coverage.

Comment

76. Clarification of socioeconomic coordination is required.

Response

Section 6.4.5 of the FEIS has been revised.

Comment

Page 7-7

77. Correct DACC address.

Response

Corrected in Section 7.5 of the FEIS.

Comment

Page 11-8

78. Correct Fall, Foster, Stanek reference title.

Response

Corrected in Chapter 11.0 of the FEIS.

Comment

Appendix C

79. Mixing zone must be discussed as well as contingency plan for sediment pond discharges.

Response

The Corps of Engineers public notice would include mixing zones only if they pertain to the discharge of fill material. Sediment pond discharges would not be covered by the COE permit.

Comment

Appendix D

80. Mixing zone must be discussed as well as contingency plan for sediment pond discharges.

Response

Mixing zones have been discussed in Section 2.3.3.1 of the FEIS. The applicable mixing zone for turbidity have been approved by ADEC and are addressed in the proposed final NPDES permit for the mine area (Appendix D). A conceptual water quality contingency plan has also been approved by ADEC. The final plan will be approved per ASMCRA permit requirements. The proposed final NPDES permits are subject to 401 certification and coastal consistency review by the State of Alaska. See response for DGC comment #86 below.

Comment

Appendix D

81. A hydrocarbon limit is appropriate if oil and grease levels are 10-15 **mg/l**.

Response

A total hydrocarbon limit of 0.15 **mg/l** has been substituted for the oil and grease limit for those discharges which contain runoff from equipment **washdown** or maintenance areas. These discharges are:

Ladd Port Site (AK-004685-0), outfall 001
Granite Port Site (AK-004331-I), outfall 002
Mine Site (AK-004357-5), outfalls 017 and 018

The total hydrocarbon limit is based on the Alaska Water Quality Standards, 18 AAC 70.020. The method for analysis (Standard Method 5038) has also been specified.

Comment

82. Limitations on flow, fecal coliform and chlorine should be set for all sanitary waste discharges.

Response

NPDES permits for the Granite Point Coal Port (AK-004331-1) outfall 001, and the Housing Facilities (AK-004356-7) outfall 001 authorize the discharges of sanitary waste. These permits now include maximum flow limitations based on the capacity of the treatment plant. For the port site, the treatment plant's average monthly flow limitation is 2,000 gallons per day (gpd). For the housing site, the treated sanitary waste from the mine site (previously identified as outfall 019 in the mine permit) and the Lone Creek housing site will be combined before discharge. This combined flow is 50,000 gpd.

Fecal coliform standards have been established in the state's water quality standard regulations (18 AAC 70). Discharges of sanitary waste authorized by the Housing Facilities permit is to the Chuitna River, which is protected for all fresh water uses. The most stringent fecal coliform criteria is 20 fecal coliforms (FC) per 100 milliliters (ml) based upon 5 samples taken in a 30 day period, and not more than 10 percent of the total samples shall exceed 40 FC/100 ml.

The port site discharge is to Cook Inlet, which is protected for all marine water uses. The most stringent fecal coliform criteria for marine water uses is calculated by using the most probable numbers (MPN) procedure for measuring fecal coliform. The median MPN shall not exceed 14 FC/100 ml, and not more than 10 percent of the samples shall exceed a FC MPN of 43 FC/100 ml.

Both the fresh water and marine water FC criteria must be met at the edge of the mixing zone. ADEC will, through the Clean Water Act 401 certification procedures, establish "end of the pipe" fecal coliform and chloride limitations.

Comment

83. References to "trace amounts" of floating solids, visible foam and oil and grease should be removed.

Response

Changes have been made in all NPDES permits.

Comment

84. Regulation of chemicals and detergents used to wash equipment must be addressed.

Response

The Ladd Coal Port, Granite Coal Port and Mine NPDES permits will now require the permittee to submit to EPA and ADEC a list of those chemicals, detergents, and solvents/degreasers that are used to wash down equipment or used in the maintenance shops and enter the sedimentation ponds through runoff. Only those chemicals, detergents, solvents or degreaser approved by EPA and ADEC will be allowed.

Comment

85. "Cessation of the precipitation event" should be defined.

Response

"Cessation of the precipitation event" is now defined in the following permits:

Ladd Port Site (AK-004685-0), Part I.A.2.c.
Granite Port Site (AK-004331-1), Part I.A.2.b. (3)
Mine Site (AK-004357-5), Part I.A.2.c.

Cessation of the precipitation event for the NPDES permits is when the discharge decreases to the volume (flow rate) of discharge that preceded the precipitation event. The permittee has the burden to prove when the discharge (or increase in discharge) resulted from a precipitation event.

Both of these conditions have been added to the permits.

Comment

86. The NPDES permits should include references to the application of mixing zones to establish effluent limitations based on Alaska Water Quality Standards.

Response

The state water quality standards do not have any specific numerical standards for total suspended solids (TSS) or settleable solids (SS). Discharge of solids are controlled through turbidity and the "zones of deposit" (18 AAC 70.033) standards. Therefore, water quality based effluent limitations cannot be established for TSS or SS. The permittee has requested and received approval from ADEC for a mixing zone to meet the state's turbidity water quality standard. The mine permit (AK-004357-5, Part I.B.6 included in Appendix D) now includes a reference to the applicable mixing zone.

The permittee has not requested a mixing zone for iron or pH. Therefore, the more stringent water quality based limitations for iron and pH have been included in the permit. The limitations are based on the Alaska Water Quality Standards. 1.0 mg/l for iron and 6.5 to 8.5 for pH.

Comment

87. Daily monitoring of settling pond effluent is expensive and logistically difficult; recommend weekly monitoring.

Response

Flow monitoring has been reduced to weekly for the following permits:

Mine Site (AX-004357-5), outfalls 001-018

Granite Port site (AK-004331-1), outfall 002

Ladd Port Site (AK-004685-0), outfall 001

Comment

88. ADEC must make sure domestic discharges will meet state standards before 401 certificate can be issued.

Response

ADEC has conceptually approved the wastewater treatment system plans. Final approval by ADEC of the detailed construction plan is required prior to construction.

Comment

89. Plans for sediment ponds outside the ASMCRA area have not been submitted to ADEC.

Response

DACC has submitted plans on location of sediment ponds in areas outside the mining permit area to ADEC.

Comment

90. AK-004357-5: Sampling of TSS, oil and grease should be maintained as proposed in draft permits.

Response

The previous (preliminary) draft permit required daily monitoring for TSS, oil and grease, and iron. These sampling requirements have been added but at a weekly sampling frequency and at least once during the period when the alternate effluent limitations apply. The oil and grease limitations and monitoring requirements have been deleted. Total hydrocarbon limitations and monitoring requirements have been added. See response to comment 81 above.

Comment

91. AK-004356-7: If the housing area is designed properly, there should be no need for sediment ponds.

Response

The sediment ponds built at the housing site will collect and treat runoff during and after construction activities. There will still be a need for sediment ponds after construction even if the housing area is designed properly. Runoff is expected to occur. The permittee should however, through Best Management Practices, control, reduce and/or eliminate the amount of pollutants carried in the runoff.

Comment

92. Comparing housing sediment ponds with ore or placer mining ponds is not appropriate.

Response

In establishing technology-based limits where no effluent guidelines exist, as is the case for establishing effluent limits for runoff from the housing site, performance of various treatment systems and characteristics of the wastewater to be treated were evaluated. In this situation, runoff from the disturbed areas near the housing

site is similar to runoff from an active mining site. Effluent guidelines for an active mining site established a monthly average TSS limits at 20 mg/l (30 mg/l for a daily maximum). This is based on the treatment capabilities for the sediment pond receiving runoff from an active mining site. Based upon this evaluation, the effluent limits set for the housing site runoff were equal to the TSS limits from an active mining site.

- Kevin **Fenner** (Anchorage DEIS public hearing 8/17/88) Kenai Peninsula Borough

Comment

1. Document fails to point out that KPB is the local government entity responsible for local permits, services, etc.

Response

See revised Section 6.3 of the FEIS.

Comment

2. DEIS should incorporate KPB's Chuitna area resource development plan.

Response

Plan has been reviewed and incorporated into the FEIS where appropriate.

- Larry **Dinneen** (Anchorage DEIS public hearing 8/17/88) Port commission of Anchorage (M.O.A.)

Comment

1. Municipality of Anchorage supports the project and port facilities on the west side of Cook Inlet.

Response

Noted.

- Noel W. **Kirshenbaum** Beluga Coal Company

Comment

Page 3-9/12

1. Tyonek pier at North Foreland location can handle 40,000 DWT vessels; a proposed 1000 ft. extension would allow it to handle PANAMAX class vessels. Beluga Coal Company has done studies between 1986-1988 on aspects of the dock. Shipping both Beluga Co. and Diamond Co. coal would not be possible with the currently anticipated design capacity.

Response

Noted.

- John Evans Tyonek Native Corporation

Comment

1. Were all three proposed port locations evaluated?

Response

All three port locations were evaluated fully; the evaluations process is described in Chapter 3.0. The North Forelands site was eliminated during the initial options evaluation due to technical feasibility problems (see Section 3.2.2.1). The remaining port options (Granite Point and Ladd) were subjected to complete evaluations based on all scoping issues (Chapters 2.0 and 5.0). Baseline information collected at both sites aided this evaluation (Chapter 4.0).

Comment

2. TNC has tried to interest Diamond in using the North Foreland Site. It would be less environmentally damaging than developing a new site.

Response

Conformation of offshore area and currents at North Forelands and currents are not conducive to development of a coal port large enough for the Diamond Chuitna Project.

Comment

3. Modifications could be made to North Forelands site.

Response

See previous response for Evans, comment #2 above.

- Don **Standifer** (Tyonek DEIS public hearing 8/18/88) Tyonek Native Corporation

Comment

1. Tyonek dock is underrated in comparison to the other dock sites, especially regarding tides and icing conditions.

Response

Refer to response to Evans, #2, above.

Comment

2. Concerned about the economic impact on Tyonek village of locating a dock north or south of existing dock.

Response

The broader issues of impacts of the project on Tyonek were discussed in Chapter 4.0 and Section 5.3.6.2. Specific impacts of locating the port at Ladd or Granite Point were not addressed.

Comment

3. TNC has acquired another airstrip that could be used by project.

Response

The planned airstrip has been designed to meet the needs of the project. If other airstrips are available which meet the project needs at time of construction, they will be considered.

- Michael **Meehan** (Anchorage DEIS public hearing 8/07/88) Archdiocese of Anchorage

Comment

1. Archdiocese property is strategically located to Ladd facility.

Response

Noted.

Comment

2. Archdiocese is interested in well planned development in Chuitna area.

Response

Noted.

- Patti J. Saunders and Cliff Eames Trustees for Alaska/Alaska Center for the Environment

Comment

Page 3-1

1. Mine site is not "fixed" but can be adjusted within the coal leases held by Diamond to avoid environmental problems such as the Lone Ridge moose rutting area and Chuitna watershed.

Response

The coal underlying the Diamond leases extends through the Beluga area, continuing under Cook Inlet and the Kenai Peninsula on the east side of the Cook Inlet. However, of these large deposits of coal, only certain relatively small areas are potential mine sites due to geological, engineering, or technical considerations. For example, the deposits underlying the Kenai Peninsula will likely never be mined since they are very deep. Some of the coal underlying the Diamond leases will not be mined for the same reason.

The Diamond Chuitna mine site shown in Figure 2-2 was selected after more than 500 core holes were drilled throughout and beyond the lease area to determine the location and thickness of coal seams. While the lease area was selected as having the best mining conditions in the Beluga area, there are large areas within the leases which will not be mined because of lack of coal or coal which is too deep. Because of the greater thickness and shallower depth of coal seams in the proposed mine site, this site will create the smallest total environmental disturbance; that is, the mine will have the smallest surface area and the shallowest depth. Other sites would involve larger surface areas, greater depths, larger overburden stockpiles, more manpower, more and larger equipment etc., in short, larger mines.

In order to determine if mining will have an impact on moose rutting activities, the ASMCRA mining permit Stipulation 10 requires a 3 year aerial moose telemetry program focusing on the Lone Ridge rutting area. The results of the survey will be reported to DNR and ADF&G by May 31 of each of the three years. At the third year, a revised plan of study will be submitted for the remainder of the permit term. In addition, starting with year 7, ground surveys of moose usage of revegetated areas will begin. From the data gathered, "...mitigation may be required as necessary to avoid or minimize any impacts to moose as identified by the monitoring program," (ASMCRA permit, Stipulation 10).

The potential effects of mining on the Chuitna watershed are extensively addressed throughout the FEIS as well as being a major topic in the ASMCRA permit and administrative hearing. Programs to address these potential impacts include an extensive system of sedimentation ponds, some with flocculation, and a program to pump pit water back into streams via the sediment ponds. Stipulation 6 of the ASMCRA Permit requires a water contingency plan. A comprehensive hydrologic monitoring system is required throughout the life of the mine including 55 wells for groundwater monitoring. A separate surface water quality monitoring system is also required. In addition, Stipulation 14 of the ASMCRA permit requires construction of at least one-half acre coho rearing ponds to mitigate for the unavoidable loss of some stream habitat in the mining area.

Comment

2. Timing of activities has not been considered.

Response

Timing of activities is based on numerous factors and has been reviewed by both EPA and the State of Alaska to assure minimization of negative aspects.

Comment

Page 2-20

3. Haul road is too wide; gravel sources would be wasted, reclamation more difficult.

Response

The northern/Ladd and eastern/Ladd haul road would be approximately 12.3 m (40 ft) wide to accommodate two 3.6 m (12 ft) traffic lanes, one 3.6 m (12 ft) breakdown lane, and road shoulders. Because of the offshore characteristics of the Ladd port site, the initial project, i.e., pre-conveyor system, can be relatively small. Smaller haul vehicles can be used on the access/haul road and barges can be used at the port site rather than ships.

If the Granite Point site is used, the project would not include a smaller start-up project. Full production build-up loads would be hauled on the road from the onset. This design utilizes extremely large "off the road" vehicles in the pre-conveyor production stages. These vehicles, up to 24 ft in width, require 9.2 m (30 ft) lanes. Therefore, two traffic lanes, one breakdown lane, and road shoulders would result in a road width of approximately 35 m (116 ft).

In addition, the other potential user(s) of the southern/Granite Point (Section 5.4.1.11) have also indicated a preference for the large "off the road" trucks requiring the 35 m (116 ft) road design. There has been no similar preference stated for the northern/Ladd road (section 5.4.2.11).

Comment

Page 2-14

4. The conveyor and road corridor is too wide.

Response

The corridor is designed to accommodate both a conveyor and a road. When the haul road is no longer necessary, it may be turned over to the local jurisdiction for use while the conveyor is still being used.

Comment

5. Installation of a second road along the conveyor is unnecessary.

Response

The second road is a service road for the conveyor. Alignment is somewhat different from the haul road which does not follow the conveyor exactly. The haul road is designed to handle large trucks; the service road will accommodate light trucks only and can therefore be designed to different standards.

Comment

Page 2-19/Chapter 5.0

6. Fugitive dust emissions from the conveyor are inadequately addressed.

Response

The conveyor source dust emission factor was explained on page E-19 of the DEIS. This emission factor was previously reviewed by EPA and considered appropriate. This conveyor, due to being hooded and covered on one side, will effectively reduce fugitive dust emissions by 90 percent. This degree of control greatly reduces the emissions from this source.

The coal stockpile fugitive dust emissions were also generated using an accepted emission factor and a 50 percent control using water sprays. The conveyor and coal stock are two dissimilar sources of air emissions and would not be expected to have equivalent fugitive dust emissions. The exposed area of the conveyor only amounts to about 2.5 acres (2 feet wide by 55,800 feet long), while the coal stockpile at the port is about 25 acres. Also, the conveyor emissions are controlled by 90 percent, whereas the coal stockpile is controlled by 50 percent.

Comment

Chapter 5.0/Appendix E

7. Temporary overland truck coal haul fugitive dust emission calculations appear to be incorrect. (99 trips/day vs 331 trips/day)

Response

The correct figure is 311 trips per day. This has been corrected in the FEIS. This number of trips is associated with a hypothetical project option based on transporting coal to the port via truck during full production (12 million tons per year). This is only a transportation option and not the project as proposed by the applicant described and analyzed in Chapter 5.0, Environmental Consequences.

The 99 truck trips per day, associated with the proposed project, is the number of trips necessary to transport coal to the port during construction of the conveyor. Coal production would be about 4 million tons/yr.

The air quality impact assessment does not focus on construction emissions, but rather emissions during project operations. As stated on page 5-53, these temporary construction emissions must comply with the National Ambient Air Quality Standards but are exempt from the prevention of significant deterioration (PSD) increments.

The emission factor utilized to calculate fugitive dust coal haul emissions is an industry and agency-recognized and accepted factor. The state of Alaska Department of Environmental Conservation and the U.S. EPA recognize and utilize this emission factor. This emission factor, and the associated variables, were developed based on extensive field programs and actual measured data.

Comment

8. Exhaust emissions from temporary truck coal travel appear to be calculated incorrectly.

Response

The temporary truck coal haul exhaust emissions are calculated correctly. There is no utilization of truck fuel consumption in the air emission calculation. There is a utilization of truck horsepower and an EPA-recognized emission factor expressed in grams (of pollutant) per horsepower-hour (g/hp-hr).

The number of truck trips is correct as discussed in a previous comment.

Comment

9. Wind speed given in different units for different locations.

Response

Wind speed units have been standardized in the FEIS.

Comment

10. Wind speeds used for calculations appear low. Conveyor emissions appear low.

Response

Emissions for this project were calculated on an annual average and hourly basis. The annual average emissions utilized the annual average wind speed data. The hourly emissions were calculated by taking the annual average emission rate and accounting for the number of hours of operation per year.

The conveyor will be hooded and covered on one side to minimize fugitive dust emissions. Also, loose dust will not remain on the bottom of the conveyor on the return portion of the conveyor trip; thus, there will be no emissions from this portion of the conveyor.

Comment

Appendix E

11. Tuxedni National Wildlife Refuge is not closest to site; Kenai National Wildlife Refuge is closest. State game refuges at Beluga Flats and at Tyonek are very close.

Response

This comment refers to the visibility analysis performed in Appendix E, page E-22. This visibility analysis is required by the EPA PSD air quality regulations and is pertinent only to designated Class I areas. The Kenai National Wildlife Refuge, the Beluga Flats Game Refuge and the Tyonek Game Refuge are not Class I areas and thus no visibility analysis is required for these areas.

Comment

Page 2-45/Fig. 2-4

12. DEIS states that drainage from shops, washdown areas, etc. will be routed to sediment ponds with treatment facilities. Fig. 2-4 shows sediment ponds closest to mine facilities area to be without treatment facilities.

Response

Figure 2-4 of the FEIS has been modified to enable readers to know that booms and/or skimmers will be installed in Ponds 17 and 18.

Sediment pond systems 17 and 18 are located adjacent to the mine facilities area as shown in Figure 2-4. All runoff from areas affected by the mine facility would be collected by diversion ditches and routed to the sediment pond systems prior to discharge. According to ASMCRA

application, Table 38 (page K-124) in Revised Appendix K, Drainage and Sediment Control Design, pond systems 17 and 18 would meet the total suspended solids and turbidity standards during the 2-year, 24-hour and 10-year, 24-hour storm events without flocculants and without receiving water dilution. Additionally, Volume XVII, pages 4-39 and 4-40 indicate that these sediment pond systems would contain booms and/or skimmers, if necessary, to prevent any discharge of oil, fuel, and grease into undisturbed areas. All pond system discharges would be periodically monitored and will comply with the oil and grease limitations established by the approved NPDES permit. All oil, fuel, and grease storage facilities would be constructed to prevent possible leaks and spills. Spill prevention and appropriate clean-up measures will be addressed in a Spill Prevention, Control, and Countermeasure Plan to be kept on file at the Diamond Chuitna Mine.

Comment

13. What kind of dust suppression chemicals will be used? How much? How often? What will effects be on fish, wildlife, ground water, streams, etc.?

Response

Potential dust problems are minimized by the greater than 40 inches of precipitation in the area. When rainfall is insufficient, water will be used. Once or twice a year, a chemical dust suppressant may be needed. Magnesium chloride or calcium chloride would be used for this purpose. Effects on aquatic and terrestrial resources are expected to be negligible.

Comment

14. Forested buffers should be maintained around stockpiles.

Response

Clearing of timber will be done only when required for mining or construction. Existing timber around coal stockpile areas will be left standing to the extent allowed by construction of roads and other facilities.

Comment

15. How are stockpiles to be protected against fires?

Response

Stockpiles will be protected against fire by "good housekeeping"^{ss} procedures. Extensive experience in managing stockpiles in Alaska is available from the Sunnel Alaska Co. facility at Seward. In general, the conical piles resulting from conveyors and stacker reclaimers must be truncated and the coal compacted. Any hot spots which develop must be dug out so that they can cool before being compacted again.

Comment

16. Why is sewage sludge being buried in mine pit rather than incinerated?

Response

Burying sewage sludge in the mine pit is environmentally acceptable, especially for the small amounts which will be generated. It is common to place stabilized sludge in approved landfills unless land area is a problem, such as on Alaska's North Slope. In these cases, sludge is often incinerated. Environmentally, the trade-off is using land area with the potential for surface and ground-water pollution versus potential air pollution. Since land area is sufficient at this site, burying the sewage sludge is economically preferable. ADEC has provided a solid waste disposal permit, #8623BA002 for a sanitary landfill for the burial of commercial waste. This landfill will be located in the mine pit.

Comment

17. No discussion of effects of coal spillage from trestle and barges on marine environment.

Response

See revised Section 5.4.1.3 of the FEIS, "Impacts to Marine Environment".

Comment

18. DEIS fails to consider applicability of Clean Water Act's antidegradation requirement.

Response

See response to Trustees for Alaska/ACE comment #26, below.

Comment

Page 2-14

19. DEIS is inconsistent with draft Alaska permit regarding location of sewage outfalls.

Response

The DEIS is correct (Section 2.3.5) in stating that sewage is going to be treated at the mine site. The treatment plant appears in Figure 2-6 and in Map 4.01-2B Mine Facilities (Revised 5/87). Treated effluent from this plant will be piped to the housing area where it would join the treated effluent from the housing site and be discharged into the Chuitna River.

Two of the draft NPDES permits currently contain sanitary waste outfalls. Outfall 019 in permit AK 004357-5 for the mine is a sanitary waste discharge and outfall 001 in permit AK-004356-7 for the housing facilities is also a sanitary waste discharge. Since there is only one sanitary waste discharge (combined), EPA will amend these NPDES permits by deleting outfall 019.

Comment

Chapter 5.0

20. DEIS's conclusions about compliance with Alaska water quality standards are based on inaccurate assumptions.

Response

Tables 5-8, 5-9, and 5-25 (DEIS pages 5-31, 5-34, and 5-81, respectively) have been modified by correcting the pH range and noting that the standard for total dissolved solids is 500 mg/l or no greater than one-third higher than natural conditions, whichever is less. A note is also added explaining that information in these tables does not include dilution in a mixing zone. Therefore, information in these tables demonstrates neither compliance nor non-compliance with Alaska's water quality standards.

Comment;

21. DEIS does not discuss excessive destruction of wetlands.

Response

EIS covers wetland impacts in Chapter 5.0. Wording added to sections 5.4.1.2, 5.4.2.1, 5.4.2.2, 5.5.1.3, 5.5.2.1, 5.5.2.3 to clarify wetland impacts associated with the alternative transportation corridors.

Comment

Appendix D

22. None of the draft NPDES permits include provisions for a Best Management Plan (BMP) as required by Clean Water Act.

Response

The proposed final NPDES permits now require the development of a BMP plan. The plan must be submitted to EPA for review and approval.

Comment

23. (1) Water quality-based limits are not included in the permit.

(2) Fecal coliform and chlorine limits for sanitary waste discharges are not included in the permits.

(3) Pollutants of concern listed in Tables 5-7 and 5-9 of the DEIS are not included in the permits.

(4) Also, the pollutants of concern should be included in the permits under technology-based consideration. Effluent limitations for toxic pollutants (such as metals) must be set using best professional judgement of BAT.

(5) In accordance with 18 AAC 70.020, the following parameters must be added to the permit: fecal coliform, dissolved oxygen, pH between 6.0 and 8.5, turbidity, temperature, total dissolved solids, sediment, toxic and other deleterious organic and inorganic substances, oil and grease (to all outfalls), radioactivity, total residual chlorine, and color.

(6) The 85% removal of BOD5 and TSS do not appear in conformance with the state standards.

Response

(1) See response to comment 86, Alaska DGC letter, above.

(2) See response to comment 86, Alaska DGC letter above.

(3) Comment referred to Figures 5-7 and 5-9. However, the correct reference is to Tables 5-8 and 5-9.

The EIS states (p. 5-33, DEIS) that the parameters that may equal or exceed water quality standards are boron, iron, nickel, manganese, ammonia (nitrogen) and zinc. However, no significant water quality impacts are anticipated. Monitoring for these parameters will be included in the permit. If monitoring results violate the water quality standards (after factoring in the applicable mixing zone) the permit will be modified to incorporate water quality-based limits.

(4) EPA has established national effluent guidelines that include limitations that represent BAT. In establishing these BAT effluent limitations EPA determined that the "effluent contained very low concentrations of toxic and nonconventional pollutants after application of settling." (EPA, Final Development Document for Coal Mining, EPA 440/1-82/057; p.6). The DEIS has shown that a few of the parameters have the potential to equal or exceed the water quality standards. EPA has determined that it is premature to establish water quality based limitations for these parameters. Instead, monitoring of these parameters will be required.

(5) EPA's NPDES regulations require that permits contain effluent limitations that are necessary to insure adequate treatment before discharge. Some of the parameters that the commentor has suggested for inclusion have not been identified as a pollutant of concern. These parameters will not be included in the permit as limitations or monitoring conditions. Those parameters that are of concern have been added to the permit to be monitored.

(6) The 85% removal requirement for BOD5 is a technology based requirement. The EIS concluded that the input from the sewage treatment plants will meet the state water quality standards. Additional water quality based limitations are not required.

Comment

24. Permits must be revised to include provisions for compliance with zones of deposit requirements of 18 AAC 70.033.

Response

18 AAC 70.033 allows ADEC, in its discretion, to "certify a permit that allows deposit of substances on the bottom of marine waters within limits set by the ADEC" (emphasis added). The only two discharges that are to marine waters are at the port site alternatives: Ladd Coal Loading Facility or the Granite Point Coal Port. Mixing of solids discharged from the sedimentation ponds will be rapidly dispersed in Cook Inlet. The allowable amount of solids discharged are anticipated to be essentially undetectable beyond the immediate area of the discharge point. Therefore, the establishment of a zone of deposition for either of these two permits is not necessary.

Comment

25. EPA must set maximum flow limits for sanitary waste discharges.

Response

Maximum flow limits have been included in the permits. See response to comment 82, Alaska DGC letter above.

Comment;

26. EPA's failure to apply the antidegradation requirements of the Clean Water Act to this virtually pristine water system violates the Clean Water Act.

Response

The state's antidegradation standards are in 18 AAC 70.010. Water quality will be lowered due to the discharges from the entire operations. However, the degree of change will be minimal. All water quality standards will be met at the end of the pipe except for turbidity. The permittee has been requested a mixing zone for turbidity downstream of the sediment pond outfalls related to the mine. ADEC has approved the mixing zones for turbidity.

The discharge will not violate the state's water quality criteria or harm present or potential uses of the water. ADEC will be asked to certify that this is the case through the CWA 401 certification process. Only after the completion of the certification process can the NPDES permits be issued. It is through the certification process that the antidegradation requirements will be met.

Comment

27. It is not clear as to why outfall 019 is necessary if the DEIS is correct in stating that the mine site and housing site treated sewage will be mixed and discharge together.

Response

Outfall 019 has been deleted from the mine permit (AK-004357-5). See response to Trustees for Alaska/ACE comment #19 above.

Comment

Appendix C

28. Diamond's facilities are not well designed to minimize incursion on wetlands.

Response

DACC has taken into account the presence of wetlands which could be affected by the project. The proposed northern transportation corridor is aligned to avoid wetlands for two reasons: to minimize environmental impact and to minimize construction costs. The cost of building across open water or boggy areas is considerably higher than building on uplands. Therefore, the road alignment follows the highest terrain possible between the mine and the Ladd port site. Facilities within the Ladd port site are also sited to avoid wetlands for the same reasons. Drainage structures will be placed along all roads and other fills in order to avoid cutting off flow to wetland areas.

- Reke **Mishakoff** (Tyonek DEIS public hearing 8/18/88)

Comment

1. Concerned about the effects of the project on commercial fishing and subsistence.

Response

Effects on commercial fishing and subsistence have been discussed in Chapter 5.0 of the FEIS.

- Tamara Smid (Beluga resident)

Comment

Page 2-3, 2-14

1. Northern/Ladd transportation route crosses Threemile Creek (a fish stream) twice. Also crosses Lone Creek, another fish stream.

Response

These and other crossings are discussed throughout the FEIS.

Comment

2. Eastern/Ladd route crosses Lone Creek near Viapan Lake, through wetland used by birds.

Response

These and other crossings are discussed throughout the FEIS.

Comment

3. Southern/Granite Point route crosses Chuit and Old Tyonek Creek and wetland areas.

Response

These and other crossings are discussed throughout the FEIS.

Comment

Page 2-4, 2-6

4. If coal is present in entire Western Cook Inlet, should whole area be mined? What are other less environmentally damaging energy sources which could be used?

ResDonse

At this time only Diamond Alaska has applied to mine coal in the area. Existing laws allow individual applications to be evaluated and approved or disapproved based on individual merits or impacts. Under NEPA regulations, cumulative impacts are addressed to the extent feasible.

Comment

5. Wetlands cannot be revegetated and remain as wetlands.

ResDonse

Wetlands contain vegetation ranging from peat moss to black spruce. It is possible to revegetate disturbed wetlands with wetland plants or to create wetland conditions, and that is what is meant by revegetating wetlands. The ASMCRA application now contains a "Wetland Revegetation Plan^N" which has been accepted by the ADNR Division of Mining.

Comment

Page 2-14

6. Mine runoff would pollute lower elevations.

ResDonse

The drainage and sediment control plan strategically locates ditches and sediment ponds to intercept all runoff from disturbed areas. This system will not allow "polluted runoff" to flow to "lower elevations" as the commentor states. Runoff water entering the ditch and pond system will be treated prior to discharge to area streams.

Comment

Page 2-9

7. Treatment of runoff will not clean the water.

Response

The commentor states that the receiving water temperature and density will change regardless of treatment. The temperature regimes of streams receiving discharges from sediment ponds are discussed in Volume XVII, pages 4-261 through 4-261h of the ASMCRA application. This discussion notes that although the temperature regimes of receiving streams could potentially be altered by solar heating or

ambient cooling, no significant changes to natural stream temperatures would occur as a result of mine operation. Calculations were performed to determine temperature changes in receiving streams due to inflow of colder sediment pond water (winter) and warmer sediment pond water (late spring, summer, and early fall). Results of these calculations indicate a maximum change in downstream temperature of -0.31°C for winter months when average stream temperatures are above 0°C .

Calculations for the summer months are based on two situations. The first situation assumes that sediment pond water temperature would be the maximum value of ambient air temperature. This is not possible, but is a worst-case situation for predicting a maximum impact from warming. Under this situation, the maximum downstream temperature change is 0.25°C . The second situation assumes that sediment pond water temperature is the minimum value of ground water. This is also not possible, but a worst-case situation for predicting a maximum impact from cooling. Under this situation, the maximum downstream temperature change is -0.81°C . Since records indicate that diurnal temperature fluctuations average 4°C during the summer months, the predicted downstream temperature change of 0.25 to -0.81°C is much less than the average diurnal change of 4°C for natural stream temperatures during the summer months. These small temperature changes in the winter and summer will not cause measurable changes in density.

The commentor notes that treatment will not "clean the water" because the sediment ponds would be dredged periodically. The ponds need to be dredged because they, in fact, "clean the water". The purpose of the sediment ponds is to provide a quiescent area which allows the sediment to settle out of the water. The sediment that settles from the water accumulates on the pond bottom. The volume of settled sediment will increase over time to the point where there will not be sufficient space in the pond to store the settled sediment. If this situation is allowed to occur, sediment will be carried through the pond and to the receiving streams. Therefore, it is necessary to periodically remove these sediments by dredging. According to ASMCRA application Revised Appendix K, Drainage and Sediment Control Design, page K-118, the sediment ponds have been designed to contain 1 or 3 years of sediment volume depending on active pit location and mining progress.

Comment

Page 2-22

8. Figure 2-12 shows Granite Point port facilities - need same kind of detail for other port options.

ResDonse

The same type of facilities shown for Granite Point would be built at the Ladd port site. As Figure 2-12 was simply an artistic conception, it was not necessary to duplicate it for Ladd.

Comment

Page 2-31

9. The statement that all stockpiles would be within mining limits is incorrect; KPB lease options indicate coal to be stockpiled around Viapan Lake and Ladd port site.

ResDonse

There appears to be some confusion between coal stockpiles and topsoil stockpiles. Section 2.8.1.2 (DEIS page 2-31) discusses only topsoil stockpiles, all of which would be located within the mining limit. Coal stockpiles would be located within the port areas; no coal or topsoil stockpiles would be located at Viapan Lake.

Comment

Page 2-35/36

10. Mining would occur in major fish streams despite DACC's statement that they will minimize construction and mining in streams.

ResDonse

Mining plans were designed to minimize impacts on all wildlife; however, unavoidably some smaller streams would be disrupted. The State of Alaska and DACC have agreed on replacement of this habitat through the mitigation plan included in the ASMCRA permit.

Comment

Page 2-43

11. Ladd port option not thoroughly analyzed.

Response

The Ladd port option has been thoroughly analyzed by DACC including preliminary engineering, environmental aspects, and offshore port design. The FEIS analysis of the Ladd port alternative is commensurate with that of the Granite Point port alternative.

Comment

Page 2-45

12. Air quality in Anchorage and the atmosphere will be degraded by slash burning.

Response

The Diamond Chuitna Coal Project would be almost 45 miles west of the Anchorage area. The magnitude of slash burning emissions and the distance from Anchorage make it very unlikely that Anchorage would be affected by air emissions from these activities. Slash burning emissions are temporary in nature and the predominant winds in the project area are from north and south, thus, not in the direction of Anchorage. The applicant must obtain permits from ADEC before burning slash.

Comment

Page 2-47

13. Environmental coordinator should be on site, not in Anchorage.

Response

During operations, the environmental coordinator will spend time both on site and in Anchorage.

Comment

Page 3-6

14. No discussion of predicted impacts of each coal transportation option.

Response

Detailed discussions of the impacts of all potential options listed in the DEIS were not undertaken because several were eliminated early in the impact analysis (Chapter 3.0) due to technical, economic, or environmental considerations.

comment

15. Coal slurry is most environmentally sound option and it is dismissed.

Response

The coal slurry option was not chosen due to technological and economic considerations. It would have a similar environmental impact to the covered conveyor system.

Comment

Page 3-10

16. The environmental hazards of "Option 6" are not shown on Table 3-2.

Responses

Commentor's reference to "option 6" is unclear. This table shows major reasons why certain options were eliminated early in the evaluation process. Any options which were retained were evaluated in more detail in the EIS.

Comment

17. North Foreland option shown as eliminated.

Response

See response to Smid comment #16 above.

Comment

18. Blasting in August and September 1988 shows northern route is now the only option which remains.

Response

DACC is unaware of any blasting studies by Northern Geophysical.

Comment

Page 3-18

19. DACC has stated that a road would be used to transport coal for sometime despite Table 3-6 showing a high adverse impact from roads.

Response

The road will be used for coal hauling only until construction of the coal conveyor system is complete. Tonnages to be transported during this period will be low. See also response to DCG comment #19.

Comment

Page 3-29

20. This table shows Eastern/Ladd corridor as being environmentally better, but blasting by Northern Geophysical has shown that the Northern/Ladd route is better.

Response

See response to Smid comment #18 above.

Comment

Page 3-35

21. Paragraph 2, last sentence is a value judgement not based on fact, i.e., Northern/Ladd vs Southern/Granite Point comparison.

Response

The judgement was necessarily based on best professional knowledge following the logic of that section.

Comment

Page 4-38

22. Paragraph 4, first sentence: Fish which spawn in area streams are caught in other areas.

Response

The sentence refers only to resident fish, not anadromous fish such as salmon. Also, the sentence says that resident species are not significantly exploited in area streams, i.e., they are not fished heavily.

Comment

Page 4-38/41

23. Fish data from ADF&G in 1983 and 1984 were not typical of the area.

Response

Data referenced are not from ADF&G. Catches of various species in these two years in the upper inlet fishery, however, suggest that the 1983-84 period is fairly representative of the long-term trends (see the mean figures for 1966 through 1984 on Table 4-15 of the FEIS) i.e.,

Chinook: 1983 = 1.7 x average, 1984 = .75 x average

Coho: 1983 = 1.8 x average, 1984 = 1.6 x average

Chum: 1983 = 1.6 x average, 1984 = .97 x average

Pinks (even) 1984 = .50 x average

Pinks (odd) 1983 = .40 x average

Comment

Page 4-61

24. Air quality studies cited were done in areas already polluted and not in the mining and transportation areas.

Response

The EIS uses existing, representative air quality data to assess existing condition. See Section 5.3.4 for a detailed analysis of air quality impacts of the proposed project.

Comment

Page 4-77

25. Area residents were not surveyed to determine their attitudes toward the project. Tyonek residents are most concerned about destruction of fish and wildlife. Beluga residents and land owners were not mentioned in EIS.

Response

Although a formal "survey" of Tyonek was not done, interviews were conducted with 32 Tyonek residents. The results were summarized and included in Section 4.7 of the DEIS and FEIS. Concern of Tyonek residents regarding fish and wildlife were included in the report and the EIS. The data collection and analysis process reflects an

"ethnographic key informant¹" approach, a standard socioeconomic study technique. Surveys are designed to quantify responses to project issues rather than to identify new issues. Beluga residents were not specifically included because the field work was done prior to the identification of the Ladd port site as an alternative.

Comment

Page 5-11

26. Value judgments were made regarding importance of lost wildlife habitat.

Response

NEPA guidelines require the use of best professional judgment when quantitative data is not available to the EIS preparer.

Comment

Page 5-12

27. Paragraph 5, last sentence: this may be construed as defense of killing moose and bear for sport and meat.

Response

State law allows killing of wildlife in defense of life and property. However, an animal which is killed must immediately be reported to ADF&G. Moose meat must be immediately turned over to the state. The same is true for a bear skin and skull. A report must be prepared immediately. The laws are designed to discourage unlawful harvest.

Comment

Page 5-45

28. If stream and ground water is polluted, the marine environment will be affected. Also, marine environment will be affected by the water and air cycles.

Response

It is recognized that minor changes in surface and ground-water quality will occur in the project area resulting from construction and operation. These changes may increase dissolved and suspended solids concentrations in the Chuitna River causing a slight increase of these materials entering Cook Inlet. Water affected by the

project is an extremely small proportion of the total entering Cook Inlet in this area and, consequently, changes in marine water quality due to the project will be undetectable. Furthermore, Cook Inlet is a dynamic, glacial estuary having a tremendous natural sediment load, a huge volume of water, and strong tidal currents which assure that a change in marine water quality will not occur.

Comment

Page 5-45

29. Has the state petitioned to change their air emissions standards to allow permitting of this project?

Response

The Alaska Department of Environmental Conservation (ADEC) has adopted, and submitted to EPA, a revision to its permitting regulations to make them consistent with the minimum EPA requirements. The effect of this revision would be to exclude fugitive emissions from the determination of permit requirements for certain source categories. Under these revised rules, the Diamond Chuitna Coal Project would still be required to obtain a "permit to construct and operate" from ADEC, and must still comply with ADEC's requirements for the "prevention of significant deterioration" (PSD) because emissions from sources other than the mine exceed the PSD applicability level. The Diamond Chuitna Coal Project could obtain an exemption from the PSD requirements by reducing particulate emissions from sources other than the mine. Regardless of the ADEC permitting requirements, the air quality impact analysis done for the draft environmental impact statement demonstrates that the Diamond Chuitna Coal Project will comply with ambient air quality standards and PSD increments.

- Myra Starkloff (Tyonek DEIS public hearing 8/18/88)

Comment

1. DEIS needs to be redone because it takes too lightly the concerns of the residents.

Response

Public comment has been solicited throughout the EIS process. Refer to chapter 7.0 (Consultation and Coordination).

10.3 Public Comment Letters



United States Department of the Interior

OFFICE OF ENVIRONMENTAL PROJECT REVIEW
1609 C STREET, ROOM 119
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EEB EPA/
REGION 10

September 1, 1988

Robie C. Russell, Regional Administrator
Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101

Dear Mr. Russell:

We have reviewed the Draft Environmental Impact Statement (EIS) for the Diamond Chulitna Coal Project, and offer the following comments for your consideration.

We believe the EIS should include specific ground-water monitoring plans, which would include recording possible water-level changes and water-quality changes in the various aquifers involved. 1

Known faults that affect ground-water flow should be shown on appropriate maps and sections. Faults that are barriers to ground-water may affect flow direction or water levels, possibly increasing drawdown. These faults should be considered in evaluating aquifer characteristics and possible water-level changes. Additionally, water-quality effects should be assessed relative to the removal of impermeable faults that currently separate water of poor quality from better quality ground-water. 2

In general, we believe the document adequately describes the fish and wildlife resources in the project area, particularly with respect to the Granite Point alternative. However, we also believe the document needs additional information and analysis in its description and assessment of impacts that would occur with development of either the northern or eastern access routes associated with the Ladd port site alternative. We are also concerned with the lack of a comprehensive mitigation plan for each alternative described. 3

Earlier planning efforts and environmental studies placed heavy emphasis on Granite Point as the preferred alternative for port development. Valuable resource data was obtained with respect to development of the route; however, much of this information may not be transferable to the two alternate Ladd port site routes, neither of which has been adequately studied or evaluated with respect to fish and wildlife impacts. Therefore, it is difficult to determine on what basis the eastern Ladd route has supplanted the Granite Point route as the route with the least environmental effects. Also, this lack of information hinders our ability to formulate specific mitigation recommendations. We feel that appropriate studies must be conducted on the two 4

alternative Ladd routes to equitably compare these options. We strongly urge that habitat-based assessment techniques be utilized to quantify both adverse and beneficial impacts. This could entail use of the Fish and Wildlife Service's Habitat Evaluation Procedures or a comparable methodology.

Once this information has been generated, a comprehensive, detailed mitigation plan should be developed for each alternative. This plan should include specific mitigation measures, implementation schedules, and appropriate funding mechanisms for all identified adverse impacts. In this regard, we recommend the consideration of an interagency team to oversee all mitigation and monitoring activities (terrestrial and aquatic), assess mitigation and monitoring results, and identify any additional mitigation that may be justified by those results. Funding for these efforts should be included as part of project costs. 4

The mitigation approach and planning documentation by the Alaska Power Authority for the Susitna and Bradley Lake hydroelectric projects may provide helpful technical assistance to planners as they proceed with a formal mitigation plan for the Diamond Chulitna Coal Project.

In summary, we believe the EIS needs additional information concerning ground-water in the project area and the effects associated with the Ladd site access routes, and mitigation needs and measures. It is also important that sufficient data be available for the determination of mitigation needs for the timely processing of future project related permit applications.

We appreciate the opportunity to comment on this draft.

Sincerely,

Paul D. Gales
Regional Environmental Officer

cc: Rick Seaborne, EPA



DEPARTMENT OF THE ARMY
Regulatory Branch
Special Actions Section

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EEB EPA/
REGION 10

-2-

Rick kaborne
Environmental Protection Agency, WD-136
1200 Sixth Avenue
Seattle, Washington 98101

Dear Mr. Seaborn:

This letter provides **comments** in regard to the Draft Environmental Impact Statement (EIS) on the **Diamond Alaska Coal Project**. The Corps of Engineers (Corps) reference **numbers** for this project are 2-850259 (Cook Inlet 330), 2-850260 (Cook Inlet 331), and 2-850261 (Cook Inlet 332).

The Corps appreciates the opportunity to **comment** on this document and to be designated a cooperating **agency** for this EIS. The **major concerns** which still **need** to be resolved **include mitigation** concerns and the relationship of the surface mining **permit** and its stipulations to the EIS process. In addition, the draft **404(b)(1)** evaluation which was prepared by **Dames and Moore** was left out of **Appendix C**. 3

In regard to **mitigation**, the **treatment** of various mitigative options in the DEIS are not sufficiently identified and developed in order for a comprehensive **mitigation package** to be put together. In order for the Corps to use this EIS process for our review and decision making, the DEIS should be detailed enough to provide a comprehensive evaluation and **recommendation of mitigative features** which would allow the project to be consistent with the **404(b)(1) guidelines** and the public interest review. Many **mitigative features** have already been incorporated into the project by the applicant and as a result of the NEPA process to date. These items should more clearly be listed in order for the reviewer to determine the extent of mitigation which has already been made part of the project. (These are primarily reducing, avoiding and minimizing measures.) 1

Also related to the mitigation concerns and impact assessment is the Division of Mining Surface Mining **Permit** which has already been issued. This permit has many **mitigative requirements** for the mine pit which have already been agreed to by the applicant and which are not specified in the DEIS. A detailed review of those requirements in the EIS would help reviewers and the applicant by ensuring that duplicating or conflicting stipulations are not put on permits. A preliminary review of the Surface Mine permit stipulations indicates that there may already be sufficient mitigative and monitoring efforts built into the Surface Mine permit to address the resource agency concerns for the mine area. If this subsequent review for the

The development of the **Ladd** corridor alternative is not **comensurate** with the **development** of other alternative measurer and not sufficient for a detailed review. The applicant should **more** fully develop this alternative, particularly since **It seems** to be a preference of the applicant. 2

Should you require additional **information** on this subject, please contact **Ms. Carol Gorbics** of my staff at (907) 753-2724.

Sincerely,

Larry L. Reeder
Larry L. Reeder
Chief, Special Actions Section
Regulatory Branch

STATE OF ALASKA

OFFICE OF THE GOVERNOR

DIVISION OF GOVERNMENTAL COORDINATION

STEVE COWPER, GOVERNOR

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September 22, 1988

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EEB EPA/
REGION 10

U. S. Environmental Protection
Agency

Attn: Mr. Rick Seaborne
WD-136
Region 10
1200 Sixth Avenue
Seattle WA 98101

Dear Mr. Seaborne:

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT
DIAMOND CHUITNA COAL PROJECT
PEASE 2 - STATE ID. NO. AK880705-02A

The Division of Governmental Coordination (DGC) has completed coordinating the state's review of the Draft Environmental Impact Statement (DEIS) on the Diamond Chuitna Coal Project. The DIIS was circulated by the U. S. Environmental Protection Agency (SPA) for review and comment pursuant to the National Environmental Policy Act (NEPA).

Diamond Alaska Coal Company (DACC) proposes to develop a twelve million ton per year coal mine in the Chuitna region of upper Cook Inlet, approximately 45 miles west of Anchorage. The project would consist of an open pit mine and associated coal transportation and port facilities, service facilities, and housing accommodations. The project requires National Pollutant Discharge Elimination System (NPDES) Permit from SPA for discharge of pollutants from the mine, port, coal loading, and housing facilities to navigable waters. Additionally, various project activities require permits from the U. S. Army Corps of Engineers (COE). Pursuant to NEPA, the Environmental Impact Statement (EIS) process was initiated in response to DACC's application for these permits.

The review of the draft and final EIS documents and the associated federal permits constitutes Phase 1 of the state's permitting process for the Diamond Chuitna Project. We are

Attn: Mr. Rick Seaborne 2
DEIS - Diamond Chuitna Coal Project
Phase 2 - State ID. No. AK880705-02A

September 22, 1988

providing comments on the DEIS to be either addressed or included, as noted, in the Final Environmental Impact Statement (FEIS). The state will complete our Phase 2 review and our Coastal Management Program consistency finding between the issuance of the FEIS and preparation of the Record of Decision.

DGC received comments on the DEIS from the state Departments of Environmental Conservation (DEC), Fish and Game (DFG), Natural Resources (DNR), and Transportation and Public Facilities as well as from the State Historic Preservation office and the Kenai Peninsula Borough. Reviewers noted that in comparison to the Preliminary DEIS, the DEIS is much improved and the state acknowledges the considerable effort of the EPA and document preparers in producing this comprehensive planning document.

The state's comments on the DIIS are separated into general comments, page-specific comments, and comments on the NDES and COB permits. For purposes of clarification of our comments and to provide specific information to EPA on the technical review previously completed by the state, we have included a discussion of our Phase 1 permitting for the project within the general comments.

GENERAL COMMENTS

EIS Process and State Phase 1 Permitting

Prior to issuance of the DEIS, the state completed initial permitting for the port, transportation, housing and mine components of the project. Through this Phase 1 permitting process the initial ten year project, affected resources, and associated impacts were reviewed and, for the mine component, detailed monitoring programs and specific mitigation measures developed. The state Surface Mining Permit application required pursuant to the Alaska surface Coal Mining Control and Reclamation Act (ASMCRA) was the impetus for this detailed review and the development of the monitoring and mitigation for the mine permit area. Through ASMCRA, the state has primacy over permitting for coal mining in Alaska. The federal Office of Surface Mining Reclamation and Enforcement (OSMRE) oversees the state program. The state ASMCRA regulations for coal mine development must be at least as effective as the federal OSMRE regulations.

From January 1985 to June 1988 the state conducted completeness and technical adequacy reviews of the Phase 1 permit applications for the project. This included a 27 volume application for a Surface Mining Permit required under ASMCRA.

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Phase 2 - State I.D. No. AK880705-02A

September 22, 1988

The states nearly 3 112-year process included the following steps:

- A 13 month Completeness Review, which generated 33 pages of agency comments; 11 separate reports to the state by 3 contractors totalling 237 pages; 56 pages of Findings by the DNR; and one major revision of the Permit Application by the applicant.
- A 13 Mnth Technical Adequacy Review, which generated 144 pages of agency comments; 10 separate reports to the state by 5 contractors totalling 626 pages; 469 pages of public comments and transcribed testimony; 358 pages of Findings by the DNR; and two major revisions of the Permit Application by the applicant. This process culminated in a decision by the state on March 5, 1987 to require modifications to two major aspects of the permit application, plus an additional 23 permit stipulations.
- A 5-month review of a fourth major revision of the Permit Application submitted by the applicant in response to the state's initial (March 3, 1987) permit decision, which generated 36 pagea of agency comments; 32 pagea of public comments; an additional contractor report totalling 39 pages; and 47 pages of Findings by the DNR. This process culminated in a decision by the state on August 21, 1987, to approve the permit with 19 stipulations.
- A 10 month Administrative Hearing process which considered over 25 separate appeal issues raised by the applicant and by Trustees for Alaska. Over twnty full or partial days of oral testimony by 16 witnesses was heard. The hearing generated 1,339 pages of briefs, motions and other docuaments, and culminated in a decision upholding the state's permit approval and stipulations on all but two minor points. This decision was adopted by the state on June 28, 1988.
- A subsequent appeal of the state's permit decision was filed in Alaska Superior Court on July 28, 1988, and is currently in progress.

The Phase 1 review was completed by technical staff of the state resource agencies as well as private technical consultants under
revisions to the ASMCRA application

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DEIS - Diamond Chuitna Coal Project
Phase 2 - State I.D. No. AK880705-02A

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Because of this, the state strongly recommends the DEIS authors review the technical evaluation completed by the state during the Phase 1 permitting. We recommend that the FEIS reflect, as the preferred alternative for the mine component, the monitoring and mitigation developed as a result of this extensive process for the mine's initial 10 years as permitted by the state through ASMCRA.

The state has previously provided EPA with our ASMCRA Surface Mining Permit decision and our finding of consistency of the Phase 1 project with the ACMP. During the course of the DEIS review we have discussed with the COX and SPA the benefits of a detailed review of the ASMCRA application and our decision documents. State staff are available to assist the federal staff as well as the DEIS preparers in this review.

The ASMCRA decision applies only to the geographic area covered by the Surface Mining Permit and the monitoring and mitigation apply only to the initial 10 year permit term. The state recognizes that the DEIS and FEIS have a much broader scope and term. We agree with the DEIS authors that special problems exist in predicting the extent, magnitude, and duration of potential impacts as mining progresses over a period of 30 years. However, because of the strenuous requirements of the ASMCRA regulations, the state believes that the decision made pursuant to these regulations should be mirrored in the FEIS discussions of the mine area, project impacts, monitoring and mitigation for the initial 10 years. This comment is referenced repeatedly in our page-specific comments.

Where possible we have separated our comments on the remaining 20 years covered by the EIS from the initial 10 years. Because the detailed monitoring and mitigation have not been developed for project components outside the ASMCRA permit boundary, we also distinguish between the ASMCRA permit area and the other project areas (i.e., road, transportation, housing, conveyor and port).

Mixing zone and state Water Quality Standards

Although the DEIS provides a discussion of application of the state receiving water standards, eg. the Alaska Water Quality Standards, too little information is provided concerning the applicability of a mixing zone. While both the EPA and state standards can or do apply at the point of discharge, the state standards may be applied to the receiving water when a mixing zone is designated. The state's ASMCRA review identified that discharges from the sediment ponds serving the active mine site are likely to require a mixing zone to comply with the state standards. The discharge site meets specific discharge

Attn: Mr. Rick Seaborne 5
DEIS - Diamond Chuitna Coal Project
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September 22, 1988

to achieve the receiving water standards at the boundary of the zone. Although the mixing zone concept is mentioned in the DEIS, neither the DEIS, nor the draft NPDES permit address the application of a mixing zone. 2

The DEIS identifies that under winter lowflow/baseflow conditions, compliance with the Alaska Water Quality Standards is not projected by recent studies and modelling. The state's ASMCRA review reached the same conclusion. Based on such uncertainties and to assure that state standards will be met, the state is requiring that the applicant develop a water quality contingency plan. The contingency plan provides for implementation of a variety of measures to ensure the active mine discharge achieves compliance with the Alaska Water Quality Standards. The contingency plan is required and described in stipulation 6 of the Surface Mining Permit and is also a condition of the Phase 1 project's consistency with the ACP. This contingency plan must be reviewed and approved prior to issuance of the 401 Certification from the DEC for the EPA NPDES permits and the COE Section 404 permits.

Therefore, the operator's reliance on the mixing zone to meet state water quality standards along with the contingency plan stipulation should be described in the FEIS and the NPDES permit.

Development of Mitigation Measures

The state acknowledges that special problems exist in attempting to assess project impacts over the 30 year term covered by the DEIS. As the DEIS suggests, this will require a flexible approach that is responsive not only to the results of acquired monitoring data, but to potential advances in mitigative techniques. To port this approach to ensure that it is consistent with the tenure of the project.

In reviewing the ASMCRA permit application for the mine, the state utilized an integrated process to define whether specific impacts can be avoided, minimized, rectified or reduced. If not, then mitigation for unavoidable impacts was required in concert with monitoring to quantify the effects of mitigative efforts and identifying additional impact trends.

As described above, the process for review and approval of the ASMCRA Surface Mining Permit was extensive. This process considered virtually all of the mitigation options proposed by EPA in the DEIS. Many of these were developed into detailed requirements. Several other options were rejected (See page-specific comments for further detail). The process involved all the state resource agencies and the mitigation and monitoring plans developed received extensive public review and input.

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The DEIS presents project mitigation in the form of various options that regulatory agencies may adopt during permitting. This approach does not take advantage of the mitigation information available as a result of the extensive state effort for the mine permit area for the 10 year permit term. Additionally, this approach renders the DEIS ambiguous regarding appropriate mitigation both within and outside of the mine permit area. Finally, because the DEIS fails to specify a preferred mitigation plan with justifying rationale, it does not illustrate what EPA supports and why. 3

The state has several recommendations to correct these deficiencies in the FEIS. First, as stated above, the state strongly recommends that the FEIS reflect the mitigation measures developed via the ASMCRA process for the mine permit area for the initial 10 year term. Secondly, the state recommends that, for the project components outside the mine area, the EPA evaluate whether impacts can be avoided, minimized, rectified or reduced prior to defining compensation as the initial mitigation approach. Finally, the state recommends that the appropriate mitigation beyond the initial 10 year term for the mine permit area and for the other project areas be identified prior to issuance of an FEIS via a federal/state/applicant workshop forum. appropriate feasible mitigation/monitoring identified would then be reflected in the FEIS. The suggested approach is to review the specific impacts associated with or anticipated from various project components and then if these impacts cannot be avoided, to assess the ways they may be minimized, rectified or reduced. 4

The preparers of the DEIS held such a workshop on the project fisheries mitigation plan in August 1985. We believe reconvening this forum would allow development of a greater degree of specificity in the FEIS and would greatly reduce the potential for conflicting or changing mitigation requirements, which would be unworkable for the applicant, from various permitting agencies. The suggested approach would also allow the FEIS to reflect the project specific expertise of state and federal resource agency staff many of whom have worked extensively on the DACC proposal over the past several years.

An interagency/applicant workshop approach has been implemented successfully on other large scale development in Alaska. In some cases the working forum continues to meet bimonthly to review necessary proposed project modifications and/or monitoring results.

The DEIS references an aquatic habitat committee as a mechanism to assure implementation of mitigation measures. The interagency group suggested by the state is recommended as a technical review rather than "enforcement" forum and is not intended to

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"assure implementation" of mitigation measures. Although on other projects the interagency working forum has not been formally designated as a committee it has been effective in reviewing both terrestrial and aquatic project impacts, mitigation, and monitoring. We suggest the PSIS preparers contact the state for assistance coordinating this forum. Further we suggest that the PSIS describe this interagency/applicant group rather than an aquatic habitat committee.

PAGE-SPECIFIC COMMENTS

Page S-2. The conveyor structure is described as being enclosed on top and one side except at stream crossings where the underside would be enclosed. No discussion is provided re the other side of the conveyor. The state recommends that the entire conveyor be covered on the underside in conformance with the applicant's original design unless EPA identifies where and when this design is not appropriate. If EPA identifies portions of the conveyor for which this design is not appropriate the PSIS should address how, in these portions, accumulation of coal fines and runoff below the conveyor would be addressed.

Page 2-9. It is stated that all of the sediment pond discharges from the mine area will meet applicable standards. However, concerning documentation submitted in conjunction with the state Surface Mine Permit, it is apparent that the applicant can't meet the Alaska Water Quality Standards without the use of a mixing zone. As stated in our general comments, the DEIS should address in some detail the necessity of a mixing zone.

Page 2-14 and Figure 2-4. It is noted that runoff from the mine facilities area is to be processed by two sediment ponds for settling and treatment prior to discharge to stream-2003. However, according to Figure 2-4, the ponds discharging to stream 2003 do not include treatment works. According to the ASMCRA Permit application approved by the state, all of the sediment ponds are designed to accommodate treatment works (in most cases a two stage flocculation system). The legend to Figure 2-4 should be revised such that it does not identify some ponds as not having treatment works. Instead, the legend could differentiate between those 13 pond systems where the state has required that at least a single stage flocculation system be fully functional prior to the ponds discharging to stream and the remaining 5 pond systems.

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Page 2-15, Southern Corridor Conveyor. The map of this corridor shows buried moose crossings in the vicinity of the Chuitna River that are designed to occur on the immediate bluff area overlooking the river. However, these same crossings are noticeably absent from the artist's illustration on page 2-18. The bluff area above the Chuitna River is a critical migration route, and it is essential that the conveyor provide moose passage in this area. Therefore, the PSIS should clarify that the conveyor will, in fact, be buried in this location.

Page 2-16, Figure 2-8. Potential gravel sources need to be depicted more clearly, and an explanation provided as to why the general areas identified are believed to represent the best locations.

Page 2-19. Apparently the conveyor belt is to be partially enclosed on the underside, where the belt crosses a stream. Partially enclosed. needs further clarification, as the diagrams provided are not adequately detailed.

Page 2-19, paragraph 3. The process that led to the development of wildlife crossings on the southern corridor route was site specific, and based on known moose movements in that area. The document should not assume that distance or design criteria established for that route apply to either of the other two route alternatives.

Pages 2-25 and 2-44. Although the SPCC Plan for oil spill contingency and planning is discussed, no mention is made of siting controls for the oil and fuel storage area. With a four month supply on hand, it is likely that the operator will need a lined area with a contained berm to control potential spills. The PSIS should reference this requirement and note that the contained area is required to hold 100% of the capacity of the largest tank, while maintaining 12 inches of freeboard.

Page 2-27. The method of sludge disposal will be hauling it to the mine pit for burial. The DEIS should note that this proposal will require coordination with the state DEC to assure compliance with the Solid Waste Regulations, 18 AAC 60, eg. stabilization of the sludge prior to disposal.

Page 2-30. The statement that "Any soil which does not meet the applicant's standards for revegetation also would be covered with a minimum of 1.2 m (4 ft.) of nontoxic and noncombustible spoil material," is no longer correct. The applicant removed this commitment from the final revision of the DEIS approved by the state.

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Page 2-34, Fish Mitigation Plan. It is unclear why the applicant's fish mitigation plan is described in this section, and the wildlife mitigation plan is not.

Pages 2-39 and 2-41, Concerning Mine Site Preparation. The clearing and windrowing of trees and brush for burning is described, including provisions for burial in the mine pit if burning is not possible. However, as the mine pit would not be available for two to three years, in order to prevent beetle infestation, the operator would need to cut the trees into logs and peel and stack them. The same conditions would apply to the conveyor corridor.

Page 2-41, Conveyor Construction. The WIS identifies that all the vegetation in the conveyor right-of-way corridor will be cleared. To reduce the potential for erosion and to maintain important wildlife habitat, the FEIS should include mitigation that will minimize impacts from vegetative clearing. There measures should be included in Chapter 6.0 and could include measures such as selective clearing.

Page 2-46, paragraph 4. It should be specified what types of chemical dust suppressants are likely to be applied and if any environmental considerations are associated with these chemicals. Water, rather than chemical dust suppressants, is presently being used at the one operating coal mine in Alaska.

Page 3-6, Road. The DEIS estimates that during full production approximately 23 double trailer coal trucks will make approximately 311 round trips per day between the mine and the port site. This scenario, if realized, will result in major impacts to wildlife that live in the vicinity of, or cross, the haul road corridor. Additionally, air quality modelling shows that at full production, if trucks are used to haul the coal, the increment for fugitive dust designated in the Prevention of significant Deterioration of Air Quality (PSD) program would be exceeded.

For these two reasons the FEIS should recommend against long term use of the haul road if full production is achieved.

Page 3-13, Transportation Corridor/Port Location. A significant weakness of the alternatives selection process is that adverse impacts are weighted on the basis of the amount of acreage that will be affected by each of the various alternatives. We believe this is a biologically simplistic approach when assessing impacts to moose movement and use of adjacent habitat. For the conveyor and roads, the direction of the route in relation to other factors such as topography, migrational paths, or adjacent critical habitat areas

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may be more important than the amount of surface area lost. All else being equal, routes that parallel and/or cross few drainages are preferable to other routes. Moose movements that occur quickly (i.e., from pre-winter alpine areas to lower level early-winter range in response to severe snowfall) tend to be along drainages. Therefore, the fewer drainages that are affected by developments, the less likelihood there is that moose will have difficulty negotiating these changes.

Page 3-16, paragraph 1. No evidence is presented to support the opinion that the "Effects upon animal movements . . . would be similarly moderate." This statement may be true, but an analysis of moose movement data and the design of established wildlife crossings should be used as the basis for evaluating potential impacts.

Page 3-19, paragraph last sentence. We are unaware of any commitment on the applicant's part to the large animal the conveyor route to Ladd that conform to the migratory movements of moose. The subject sentence only remains true if the large animal crossings are placed according to migratory movements of moose. The document should reference this as a requirement of effective impact reduction via animal crossings. This item should also be included in Chapter 6.0 under mitigation.

Pages 3-33 through 3-35, Identification of Preferred Alternative. The FEIS should explain in greater detail what selection of a preferred, and secondary preferred, alternative means. The DEIS identifies the Eastern Ladd alternative as the preferred alternative. It is our understanding that, because the applicant and the Tyonek Native Corporation have apparently been unable to negotiate a right-of-way agreement for a transportation corridor to Ladd, the DEIS is compelled to develop a secondary preferred alternative that is less environmentally sound (i.e., Granite Point). Therefore, it seems appropriate that some additional discussion be given to explaining why this action is consistent with provisions of NEPA. It is our understanding that DACC prefers the Northern Ladd alternative. We request that the FEIS explain what obligations are conferred upon an applicant to modify a plan of operations if the NEPA preferred alternative and Record of Decision differ from the applicant's proposal.

Page 4-1, paragraph 3. The Moquawkie Indian Reservation was established in 1915, not 1934.

Page 4-17, paragraph 2. The statement that "moose concentrate in small groups at higher elevations" should be expanded. As written, it could mislead readers by implying

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that the total number of moose in the Lone Ridge concentration is small. In addition, the document should include a more detailed discussion of the rut concentration itself, since its characteristics and use by moose for breeding and pre-winter feeding have not been adequately addressed. Recent results of the state's Kenai Moose Research Center suggest that disruption of post-rutleary winter feeding may be as dangerous to moose populations as disruptions to successful breeding. Consequently, we suggest that the FEIS devote further attention to this possibility, and note the fact that very little information exists to predict the response of the Lone Ridge rut concentration to coal development.

Page 4-29, Flooding Characteristics. The FEIS should discuss how the flooding which occurred in October of 1986 compares to the maximum recorded flood on September 20, 1976.

Page 4-65, paragraph 3. The DEIS makes the statement that "subsistence activities are conducted" in the Kenai Peninsula Borough. This is true for portions of the borough, such as Tyonek, English Bay and Port Graham, but generally not the case for the road-connected areas of the borough. Except for the three places named above, Seldovia, and the west side of Cook Inlet, the borough has been classified as being non-rural by the Joint Board of Fisheries and Game, meaning that subsistence uses are not a principal characteristic of the economy.

Page 4-89, paragraph 2. The document should clarify that the winter moose hunt was a subsistence and recreational hunt only from 1983 to 1985. It is now a subsistence only hunt.

Page 5-11, Wildlife. An additional adverse impact that should be considered is direct mortality from moose/vehicle collisions. The state is concerned that haul road mortalities may have a significant impact on moose and other wildlife.

Page 5-19, Groundwater Quality. In several places, degradation of ground water quality from leakage emanating from newer lines and sewage treatment areas is identified. Assuming proper construction materials and techniques are utilized, leakage should not pose a threat to the environment. It is also stated that "somewhat poorer" water quality will result from the mining. The resulting water quality should be consistent with appropriate standards.

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Page 5-19. Section 1: Water Hydrology. This section should mention the possibility that natural stream temperatures and flows could be modified by mine development. The predicted changes in downstream temperatures of -0.31°C (maximum) during the winter, and -0.81°C (maximum) during the summer. (See ASMCRA Permit application Vol. XVII, pp. 4-261 through 4-261h). DNR's March 5, 1987 Findings concluded that these changes would have only a minimal effect on fish but also concluded that the magnitude of any temperature change could not be entirely predicted at this time. Therefore, a stipulation requiring continuous temperature monitoring was included in the decision (See Section II of the March Decision, p. 39-41). This monitoring program was subsequently incorporated into the permit application (Vol. XVII, p. 4-232).

Page 5-20, Surface Water Runoff. Surface water runoff from compacted gravel areas such as roads and staging areas is subject to state water quality standards. Treatment of runoff from these areas within the ASMCRA permit area has been addressed. For these areas outside the mine permit boundary, the document should discuss how runoff will be treated in order to meet state standards.

Pages 5-25 and 5-35. The discussion concerning water quality requirements, including state receiving water standards should be expanded. Although the EPA standards provide for waiving of certain EPA effluent criteria during storm events, the state water quality standards still apply, subject to accounting for variations in natural streamflow conditions. The problems occur when the post storm event, stream hydrograph and natural conditions have returned to normal, whereas continued pumping of the in-pit sumps would result in a continued elevated discharge. The document should note that the applicant has made a commitment not to pump out of the in-pit sumps unless both state and EPA water quality standards can be met and that the operator will have to work with the state in controlling the discharge to ensure compliance with state standards.

Page 5-28. As the most stringent standards apply, per the Alaska Water Quality Standards, the pH range specified should be 6.5-8.5 pH units. Because oil and grease have been identified to be present in the waste water, they should also be addressed in this section.

Page 5-30. The discussion indicates that discharge compliance with the Alaska Water Quality Standards during winter lowflow/baseflow conditions is not projected by recent analyses and modelling. DACQ does however project that after application of a mixing

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zona. See Vol. XXI, Table 40 of the ASMCRA application. As stated previously, details of proposed mixing zones have not been provided, causing the technical justification which is the focus of this review, to be incomplete. Further discussion should be added to the FEIS.

There is considerable uncertainty relative to predicting effluent discharges from this project, particularly under winter conditions. The discussion in the DEIS speculates that due to a variety of circumstances, presumably in favor of the operator, the operator will be able to meet the Alaska Water Quality Standards. It would be more relevant for the FEIS to reference the requirements of Stipulation 3 of the state's August 21, 1981, Decision relating to treatment of winter baseflow. In addition, this section should address mixing zones as well as the Water Quality Contingency Plan required by the state.

Pages 5-31, 5-34, and 5-81. There is some discrepancy between this table and the applicable standards. Please note that the Alaska Water Quality Standards reference EPA's Quality Criteria for Water when specific limitations are not provided. In some cases these levels are lower than the Alaska Drinking Water Regulations. For example, the fresh water and marine water chronic criteria for arsenic are 48 and 5 ug/l respectively. The fresh water chronic criteria for copper is 12 ug/l. As the most stringent standards apply, the criteria in Tables 5-8, 5-9, and 5-25 need to be reassessed to reflect the applicable standards. Also, the levels of hydrocarbons, oil and grease, turbidity and sediment (settleable solids) are not reflected in these tables.

Page 5-32. The use of flocculants is indicated in several places in this document, yet the DEIS does not specify if, how and what flocculants will be applied. The state ASMCRA review addressed the requirements for flocculant stations in the sediment and drainage control plan for the Surface Mine Permit area. The FEIS should reflect the information in the Surface Mining Permit application and state decision. See Stipulation 1 of the August 21, 1987, Decision. Further, additional specifics on the requirement for use of flocculants outside the mine permit area should be provided.

Page 5-33. This discussion addresses elevated levels of suspended solids in the in-pit sumps/in-pit settling areas during high rainfall, storm run-off events. However, there is no recognition of problems with continuing to discharge post-storm event, turbid run-off from the in-pit sumps. The document should reference the applicant's commitment to only pump from the in-pit sumps when the discharge can meet the

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state water quality standard. Additionally, this section should include reference to the Water Quality Contingency Plan and contingency measures to be developed to assure compliance with the standards.

Page 5-69, paragraph 1. The first paragraph identified five potential effects of the project on subsistence uses, but the DEIS discusses only two of them in the sections that directly follow. Furthermore, there is no reference in the document as to where these other potential effects might be located. We agree that all five are potential issues, and suggest that they all be discussed in one section, or at least referenced elsewhere.

Page 5-69, paragraph 4. This paragraph states that "moose abundance is not expected to decline drastically because of the project" The state has identified numerous project impacts that could contribute to a decline of unknown magnitude in loose abundance. Potential impacts include disturbance to the Lone Ridge rut concentration and loss of rutting habitat, potential vehicle/moose collisions on the haul road, and potential animal displacements and/or blockage of movements due to conveyor routing and port site development. Therefore, the DEIS prediction of no drastic decline is unsubstantiated.

The state has developed a loose monitoring program to define loose abundance so that declines may be promptly identified and steps to mitigate the decline be implemented.

Page 5-80. The possible impacts to ground water quality are briefly mentioned and reference is made to the further dilution of the leachate as it percolates and moves into surface water. However, state water quality standards do not allow for mixing zones in ground water, which invalidates the assumptions made in this section. This section should be rewritten such that compliance with state standards is achieved utilizing methods other than ground water dilution. It is likely that ground water monitoring wells will be required.

Page 5-85. Reference is made to the increase in sediment load due to this project. A detailed discussion is not provided regarding the impact of this additional loading on Cook Inlet. While it is understood that Cook Inlet is naturally silty, the issue still warrants review. The discussion would be improved by including information on the ambient load in Cook Inlet.

Page 5-86. The discussion regarding the repair and maintenance shop does not address the use and disposal of solvents.

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Additionally, there is no mention of how oil and grease will be removed from the sediment ponds if either the oil and grease trap fails, or it inadequately removes the pollutants.

Page 5-114. Given the size of the potential on-site leach field for the housing and transportation facilities, further review of ground water impacts is needed. For instance, a review of soils data may be required to determine the potential for ground water contamination. As mentioned in our comments that follow on the NPDES permits, this leach field will require a Plan Review and Approval by the state.

Page 5-115. Table 5-27 does not include total suspended solids, dissolved oxygen, fecal coliform, or chlorine (if used) concentrations. Again, although the use of a mixing zone is presented, the justification and supporting data are not presented.

Page 5-116, Effects on Subsistence Resource Harvest. Consistent with our earlier comment, this discussion should be moved to page 5-69.

Page 5-117, Effects of Change in Harvest Regulations. The state agrees that increasingly restrictive harvest regulations could have significant effects on local subsistence harvests. In addition, it is worth noting that if increases in the human population on the west side of Cook Inlet occur (as predicted) and a road connection is established with the Parks Highway, the economy of the area could change to such an extent that the Joint Board of Fish and Game might wish to reclassify this area as "non-rural," similar to, for example, the Matanuska Valley or the Willow/Talkeetna area. This would in turn eliminate all subsistence fisheries and subsistence hunts which presently exist in this area, severely restricting Tyonek's opportunities to engage in traditional activities. Although the Board of Fisheries could subsequently establish personal use fisheries, these generally have much reduced bag limits, and have no preference over sport or commercial fisheries.

Page 5-123, paragraph 2. In addition to the Three Mile site, it should be noted that in mild winters moose also utilize habitat near Congahbuna Lake.

Page 5-125, Cumulative Impacts. Again, the portion of this discussion on subsistence would be more appropriate if it were discussing all impacts

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Chapter 6.0 Mitigation Reclamation and Monitoring. Our comments regarding the mitigation and monitoring chapter of the DEIS were included in our General Comments. The state reiterates the recommendation that the FEIS include the monitoring of impacts for a mine component via the ASMCRA process. This approach lends continuity to the state and federal permitting processes while allowing the FEIS to build upon the state's previous efforts.

Toward this end, the following comments are provided on the specific mitigation options discussed in chapter 6.0. Each comment details how the state addressed the topic during the ASMCRA process and permit decision. The referenced documents are available to the FEIS preparers for review.

Many of our comments presenting detailed mitigation apply only to the mine permit area. The state continues to recommend development of appropriate litigation for the non-mine permit area through the interagency/applicant group described in our General Comments.

We note that if the FEIS contains the terms "increased emphasis, and decreased emphasis" when discussing mitigation options, further definition of these terms is required.

Page 6-4. The excerpt from Alaska Surface Coal Mining Program regulations quoted on page 6-4 is incorrectly identified as 11 AAC 90.313. The correct citation is 11 AAC 90.311(e).

Page 6-3 and 6-4, soils. The Surface Mining Permit requires that Strandline topsoils and underlying soil materials be salvaged from all disturbed areas to a minimum depth of six inches, and that soils be replaced during reclamation to at least a six inch depth. See stipulation 20, June 28, 1988 Decision; Stipulation 7, August 21, 1987 Decision, and Permit Application Vol. XVI, section 4.10. The DEIS does not reflect the final permit stipulations, and thus is out of date.

Page 6-5, Vegetation. The EPA apparently has "minor concern" over particular aspects of the applicant's revegetation plan. The issues identified include the unpredictability of using nursery stock for replacement of woody plant species, and the possibility that post-mining soil moisture levels may not correspond with the requirements of proposed plant communities. Because of this, the DEIS suggests that it may be more appropriate to encourage natural plant succession than the structured landscaping approach that is currently being planned. However, the DEIS fails to evaluate whether characteristics associated with woody species in which

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planting. will occur, and it is unclear h a natural plant succession will benefit any more than landscaped planting. if soil moisture levels deviate much from conditions that exist today.

The revegetation plan currently contained in the Permit Application (Volume XVI, Section 4.11) reflects state agency comments and concerns, and addresses all of the suggestions presented in the DEIS. It would be inappropriate to require further changes in thm revegetation plan at this time. Any further revisions should be deferred until the mine is in operation and experience has been gained with actual reclamation results in the field. Specific points raised by EPA were addressed during the ASMCRA review as follows:

• Fertilization. See Permit Application Vol. XVI, page 4-170.

• Creation of Islands of Natural Vegetation. These are planned in two of the seven postmining vegetation types. Note that success of this technique cannot be predicted at this time. "Increased emphasis" is not warranted until success can be tested in the field.

• Establishment of Willows. Willows will be planted in five of the seven postmining vegetation types. See also Stipulation 1 A to 21, 1987 Decision.

• Use of Non-Native Species. All of the proposed reclamation mixtures consist predominantly of native species. Based on plot results, DNR may in the future be recommending the substitution of Norcoast Bering Hairgrass (native) for Meadow Foxtail (introduced), but no change is considered appropriate at this time.

• Creation of Topographic Diversity and Ponds. A wetland restoration program was required in the Surface Mining Permit, for the initial ten years of operation. See Permit Application Vol. XVI, Section 4.19. Also see August 21, 1987 Decision, pp 18-19.

• Flexibility in Postmining Vegetation Types. The Permit Application specifies that actual selection of postmining vegetation types will be based on slope and soil moisture considerations. See Permit Application Vol. XVI, p. 4-159b. See also March 5, 1987 Decision, Section IV, p. 22.

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Page 6-6, Wildlife. As with the list on the preceding page, these suggested revisions to the reclamation plan have already been considered and incorporated into the Surface Mining Permit to the extent deemed appropriate. The specific points listed have been addressed as follows:

• Creation of Wet Depressions. (see discussion under Page 6-5).

• Ecological Criteria for Locating Postmining vegetation Types. (see discussion under Page 6-5).

• Establishment of Berry-Producing Shrubs. All of the listed species are planned to be established by sprig broadcasting. See Permit Application Vol. XVI, Table 4.11-12.

• Seeding of Additional Native Species. The alpine bluegrass and slough grass recommended in the DEIS are recent (1986) releases by the Alaska Plant Materials Center. Although these species may represent worthwhile additions to the seed mix in the future, neither grass is presently commercially available (commercial seed sources are in the process of being developed). During the review of the Surface Mining Permit, both the state and the applicant recognized the desirability of continuing to evaluate advances in revegetation technology throughout the life of the operation, with changes incorporated into the reclamation plan as appropriate. See Permit Application Vol. XVI, pp. 4-174 through 4-174a. Requiring the addition of the two grasses at this time, however, would be premature.

With respect to the recommended addition of yarrow to the seed mix, we are unaware of any commercial source of hardy Alaskan seed for this species, either existing or under development.

• Establishing Shrubs by Sprigging. This technique has not previously been employed in Alaska, but is planned for two of the seven postmining vegetation types. "Increased emphasis" is not warranted until success can be tested in the field.

• Repeat Fertilizations. Number and timing of repeat fertilizations will be determined in the field, based on the results of the annual revegetation monitoring program. See Permit Application Vol. XVI, p. 4-199b.

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• Development of "Edge" Habitats. Edge habitat will be increased by creating irregular community boundaries and by overlapping plantings. See Permit Application Vol. XVI, p. 4-159b. 54

Page 6-6, paragraph 2. Performance standards for reclamation success have been established through the Surface Mining Permit and are intended to ensure that postmining and use goals of wildlife habitat restoration are achieved. See Permit Application Vol. XVI, Section 4.11.8. 51

Page 6-7, paragraph 2. With regard to the areas not previously addressed through the ASMCRA process, the state supports habitat enhancement as a form of mitigation to compensate for overall long term commitments of valuable wildlife habitats. However, we believe the DEIS should specify standards based on the information that is currently available. 58

Page 6-7, paragraphs 3, 4 and 5. We suggest that the conveyor access road, adjacent to the conveyor and main haul road, be regularly cleared of snow to encourage moose use and minimize the possibility that animals will congregate on the main haul road. 59

Page 6-7, paragraph 6. The DEIS should include documentation that birds associate large plastic balls with suspended wires and cables, or that other mitigative options are less effective in preventing bird strikes. 60

Page 6-8, paragraph 4. The proposal in the DEIS, that return flows to streams be managed to optimize downstream flow was considered during the Surface Mining Permit process and was rejected as a complex and costly activity. Pumping of water to sediment ponds and resulting discharges, will need to be managed extensively to meet state water quality standards. Imposition of minimum return flow requirements would defeat this water quality management strategy, and could result in water quality degradation. 61

Page 6-9, paragraph 2. A wetland restoration program was required under the Surface Mining Permit for the initial ten-year mine area. One of the purposes of this program is to promote ground water recharge. See Permit Application Vol. XVI, Section 4.11.9. In addition, the applicant should ground water recharge by creating small wetlands. 62

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Page 6-9, paragraph 3. Throughout the Surface Mining Permit review, considerable attention has been devoted to the restoration of mined-out stream systems, and particularly to insuring that the final plan reflects "an integrated effort" of hydrologists and fish habitat specialists." The applicant has made numerous commitments describing how the reclaimed streams would be designed and has further agreed that specific engineering and design details, including plans and drawings, will be submitted to the state through the ASMCRA permit for review and approval prior to construction. See Permit Application Vol. XVI, pp. 4-217 through 4-218a, and Vol. XV, Section 4.07.1.4. 63

For areas outside the ASMCRA permit area (to be mined during years 11-30 of the operation), the DEIS should recommend reclamation of mined-out stream systems as a mitigation option for loss of fish habitat. For the entire project life, the state recommends the detailed engineering designs for stream reclamation be distributed to the interagency forum for technical review and comment as these become available. 64

Page 6-10, paragraph 2. Extensive mitigation and monitoring programs are presented throughout the Surface Mining Permit to prevent sediment or metals contamination of adjacent streams resulting from the initial ten years of mine operations. Designs are state-of-the-art, and have been subjected to comprehensive engineering reviews by the state (see final engineering report in the state's August 21, 1987 Decision). In addition, the August 21, 1987 Decision, Stipulation 6, requires a Water Quality Contingency Plan, in the event that designs do not function as predicted. Beyond the ten year mine area, the applicant has tentatively selected sediment pond locations for the life of the mine. See Permit Application Vol. XIV, Map 4.01-27. 65

Page 6-11, paragraph 3. A mitigation program, to compensate for the unavoidable loss of fish productivity resulting from the initial ten years of mine operations, has been required under the Surface Mining Permit. See Stipulation 14, August 21, 1987 Decision. 67

Page 6-14, paragraph 1, Soils. The Surface Mining Permit specifies that selected chemical and physical properties of the overburden and interburden will be monitored after the spoils are regraded, but prior to the application of topsoil. Applied topsoil will be separately monitored. See Permit Application, Vol. XVI, Section 4.10.5. 68

Page 6-15, paragraph 2, Vegetation. Annual monitoring of vegetation under the Surface Mining Permit. 69

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Permit, to determine the level of success achieved, and to identify factors responsible for positive or negative revegetation trends. Additional comprehensive sampling will be required for bond release. See Permit Application Vol. XVI, Section 4.11.8.2 and 4.11.8.4.

Page 6-14, paragraph 3, Wildlife. Monitoring requirements are already in place through the Surface Mining Permit which will satisfy three of the four listed monitoring objectives. Stipulation 10 of the August 21, 1987 Decision requires a moose monitoring program which will assess the effects of mining activities on the lone Ridge rutting area. The stipulation also requires annual monitoring of wildlife use of reclaimed areas, and reporting of all moose/vehicle collisions. See also Permit Application Vol. XV, pp. 4-115f through 4-115p.

For the areas not covered by the Surface Mining Permit, we recommend additional monitoring programs to determine the success of habitat enhancement efforts and wildlife crossings of the conveyor. In addition, the total monitoring package will require evaluation to determine whether the monitoring is sufficient to evaluate the ongoing status of the Beluga area moose population.

Page 6-14, paragraph 4, Hydrology. The Surface Mining Permit requires continuous flow monitoring at seven locations on Lone Creek, Stream 2003 and the Chuitna River. See Permit application Vol. XVII, pp. 4-232 through 4-232e. See also Stipulation 18, August 21, 1987 Decision.

Page 6-15, paragraph 1, Hydrology. The Surface Mining Permit requires an annual evaluation of data collected through the surface and ground water monitoring programs, to determine whether any observed changes are consistent with predictions of probable hydrologic consequences of the operation (which would include impacts on stream baseflow). See Stipulation 17, August 21, 1987 Decision.

Page 6-15, paragraph 2, Hydrology. The Surface Mining Permit includes an extensive ground water monitoring program, to assess ground water impacts associated with the first 10 years of mining. Water levels, water quality, and spoil resaturation will be monitored in a total of 55 wells. See Permit Application Vol. XVII, pp. 4-233 through 4-235a.

Page 6-15, paragraph 3, Water Quality. The Surface Mining Permit requires extensive monitoring of the water quality of effluents from the mine drainage system, as well as monitoring of the receiving streams. This program is in many respects more comprehensive than the requirements of

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the draft NPDES permit. See Permit Application Vol XVII, pp. 4-232 through 4-237.

Page 6-15, paragraph 4, Biology. For the initial ten years of the mine operations, essentially all of the monitoring programs recommended in this section are required under the Surface Mining Permit. The following addresses each of the points raised in the DEIS:

- Measurements of Downstream Water Quality. Sediment-related parameters which will be monitored in the receiving streams include total suspended solids, settleable solids, and turbidity. Proposals to require monitoring of bedload and/or sediment accumulation in stream gravels were considered during the Surface Mining Permit review, but were rejected for various technical reasons. See Permit Application Vol. XVII, pp. 4-233 and 4-236.

- Rerunning Instream Flow Models. Additional instream flow modeling has been required in permit years 7 and 10. See Stipulation 13, August 21, 1987 Decision.

- Collection of Hydrologic Data on Unaffected Stream Reaches. Stipulation 18 of the August 21, 1987 Decision requires the installation of an additional continuous gauging station on Lone Creek, upstream of mine disturbances.

- Fish Evaluations. The required fish monitoring program for permit years one through ten includes adult salmon spawner surveys, juvenile salmonid distribution studies, and juvenile salmonid population estimates. See Stipulation 13, August 21, 1987 Decision. See also Permit Application Vol. XV, pp. 4-85 through 4-85a.

- Photographic Documentation of Aufeis Formation, etc. This recommendation was discussed during review of the Surface Mining Permit, but was not included as a monitoring requirement. Instead, continuous monitoring of stream and gravel temperatures has been required at three locations in Lone Creek and Stream 2003. See Permit Application Vol. XVII, p. 4-232.

- Monitoring of Fish Utilization of Created Habitats. This monitoring has been required as part of the fish habitat mitigation program. See Stipulation 14, August 21, 1987 Decision.

Page 6-16. We request clarification of item 6.4.5 (Socioeconomic Aspects); what kind of coordination is envisioned, and why

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will it be restricted to community officials? We believe it is inappropriate to ~~assume~~ that village officials will be attuned to all local ~~concerns~~, and that ~~information~~ will always be passed on from officials to community residents. We also request that item 6.4.6 (Subsistence and Recreation) be revised to reflect coordination with and support of DFG monitoring programs.

Page 7-7. The address given for DACC on this page (and also on the cover sheet) is out of date and should be corrected.

Page 11-8 second reference. The correct title of this publication is: The Use of Fish and Wildlife Resources in Tyonek, Alaska.

COMMENTS ON SECTION 404 and DRAFT NPDSS PERMITS

As stated in our general comments, no mention is made in either the 404 or the NPDES permits of the need for a mixing zone in conjunction with discharges from sediment ponds serving the active mine site. Both the applicant's intent to use a mixing zone and the contingency plan which must be submitted by the applicant should be described in these permits, reflecting the certification requirements of the State of Alaska to assure compliance with the Alaska Water Quality Standards. Additional comments on the draft NPDSS permits follow. Unless noted, the comments apply to all four of the draft NPDSS permits.

1. The proposed levels of oil and grease appear high given the source is incidental oil from the operation of heavy equipment. If this levels are expected to be a 10-15 mg/l oil and grease, a hydrocarbon limit would be more appropriate.
2. Limitations for flow, fecal coliform and chlorine (if appropriate) should be set for all sanitary waste discharges.
3. References to "trace amounts" of floating solids, visible foam and oil & grease should be removed. In accordance with Alaska Water Quality standards the statement should read, "There shall be no discharge of floating solids, visible foam or oil & grease which causes a sheen on the surface of the receiving water.."
4. Chemicals and detergents are frequently used by equipment operators to wash down equipment. Additionally, ~~are frequently used in maintenance~~

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addressed in the permits by requiring review and approval of the specific chemicals by SPA and DXC.

5. "Cessation of the precipitation event" should be defined.
6. The limitations in the permits for iron, TSS, pH, and settleable solids are in accordance with EPA's Final Effluent Limitation Guidelines for the Coal Mining Point Source Category (40 CFR 434.45 and 434.63). However, the Alaska Water Quality Standards (18 AAC 70) which include the Quality Criteria for Water (SPA 440/5-86-001) are still applicable and in some cases are more stringent than 40 CFR 434. Additionally the state standards apply under all conditions including baseflow and all precipitation events as referenced in the permits. Therefore, the permits should include references to application of mixing zones for these parameters, as well as turbidity, in order to meet state standards.
7. The draft permits specify a required monitoring program for sampling settling pond effluent during baseflow conditions. The permits require weekly sampling for most of the listed parameters. However, monitoring of effluent flow is required on a daily basis. This is a change from the previous draft permits which specified weekly flow measurements. In developing required monitoring via the ASMCRA review the state found that daily flow monitoring is logistically difficult, expensive and, because the other water quality parameters are only sampled weekly, provides no additional assurance that effluent limits are being met. The state Surface Mining Permit reflects our finding that weekly monitoring of flow is sufficient and we recommend that EPA revise the NPDES permits to reflect weekly monitoring.
8. Each of the four NPDSS permits include authorizations for discharge of both domestic and nondomestic wastewater. State regulations require approval of domestic wastewater systems to ensure discharges from these systems will meet state water quality standard*. The mechanism for this approval is the applicant's submittal of engineering plans for DEC technical evaluation and approval. Prior to receipt, review, and approval of these plans, DEC cannot be certain that the domestic discharges will meet state water quality standards. Therefore, DEC cannot issue the required 401 Certificate for the NPDSS permits until the system plans have been approved.

Additionally, state regulations require DEC plan approval of nondomestic wastewater systems (i.e. sediment ponds). ~~These systems within the mine~~

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permit area were submitted via the ASMCRA permit application. However, plans for the sediment ponds outside the ASMCRA permit area have not yet been submitted to DEC. Again, prior to DEC plan approval, the DEC 401 Certificate cannot be issued.

Throughout the Phase 1 permitting DEC has notified DACC of this requirement. DACC has recently contacted DEC regarding this. With prompt submittal of the required plans, DEC plan approval and preparation of the 401 Certificates could be accomplished such that a delay in issuance of the NPDES permits is not necessary.

The following comments are specific to the two permits listed:

AK-004357-5 - Coal Mine

- Part I A.2.a. & b Sampling of TSS, oil and grease (hydrocarbons), and iron should be maintained as proposed previously in draft permits.

AX-004356-7 - Housing

- Part I.B. If the housing area is designed properly, there should be no need for sediment ponds. This needs to be addressed before permit issuance.
- Part I.B. TSS limits differ from the other permits. If sediment ponds serve only housing areas. (storm water) comparing it with Alaskan ore mining, or placer mining is inappropriate.

CONCLUSION

This concludes the state's comments on the DEIS. We look forward to working with BPA and the COB on resolution and refinement of the issues identified and review of an FEIS and NPDES and COE permits which reflect this effort. As we discussed, DGC is available to EPA and the document preparers to provide any further information on these comments and to initiate coordinated resolution of the mitigation program.

We appreciate the opportunity to comment on the DEIS and to work with EPA toward consistency between the federal and state permitting processes and decisions for the Diamond Chuitna Project.

Sincerely,

Patty Bielawski
Patty Bielawski
Project Review Coordinator

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September 22, 1988

cc: Dan Harlow
Diamond Alaska Coal Company

Carol Gorbics
U. S. Army Corps of Engineers

Bill Lamoreaux
Department of Environmental Conservation

Dan Wilkerson
Department of Environmental Conservation

Julie Howe
Department of Environmental Conservation

Sam Dunaway
Department of Natural Resources

Carol Pahlke
Department of Natural Resources

Judith Bittner
Department of Natural Resources, SRPO

Lance Trasky
Department of Fish and Game

Hark Kuwada
Department of Fish and Game

BELUGA COAL COMPANY

September 8, 1988

Mr. Rick Seaborne
EIS Project Officer
Environmental Protection Agency, YO-136
1200 Sixth Avenue
Seattle, WA 98101

Re: Oiwnd Chuitna Coal Project

The following comments address statements ude in Section 3.2.2.1 (pages 3-9 and 3-12) of the Draft EIS of the Diamond Chuitna Coal Project. Specific attention is directed to comments therein regarding North Foreland as a possible site for the coal port considered in this project.

The North Foreland location has an existing pier (now known as the Tyonek Pier) which was used from 1975 to 1983 to load wood chips on ocean-going vessels as large as 40,000 DWT. This pier has been determined to be in good condition by consultants employed by Tyonek Native Corporation and Beluga Coal Company.

Subsequent to the 1986 analysis of the Tyonek Pier by Soros Associates, the Beluga Coal Company engaged various marine and engineering consultants who have provided our company with more recent technical information on the tidal currents and ice conditions at the North Foreland site. In addition, preliminary design for a 1,000 foot pier extension has been made which will accommodate PANAMAX size vessels requiring a draft of 50 feet of water.

With the anticipated construction of this pier extension, it is evident that the limitations of the existing pier are academic. Inasmuch as fender systems, structural adequacies for a travelling shiploader, and any other requireoant for loading of large vessels will be included in the new facility. The increased depth of water at the end of the pier extension will resolve concern about of sedimentation at the berth. The pier extension and new berthing wharf will be properly positioned to achieve the optimum alignment for the dominant direction of ebb and flood currents.

The work performed for the Beluga Coal Company between 1986 and 1988 on pier extension, tidal current and ice forces, and on materials handling requirements, confirm that the new North Foreland facility, having a total length of 2,440 feet and a 750 foot berthing wharf, will have a capacity to load 12,480,000 metric tons per year with a 57% time utilization of the berth. In the marine bulk terminal industry, this percentage utilization is considered a conservative operating factor when measured against the optimal design for bulk terminal berth

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Mr. Rick Seaborne
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The Beluga Coal Company anticipates shipments over this new facility of up to 5,000,000 metric tons annually. However, the combined volumes of both Beluga and Diamond Chuitna's additional projected 10,900,000 metric tons per year would exceed the currently anticipated design capacity of the extended Tyonek pier.

Sincerely,

Noel W. Kirshenbaum

NWK:ea

TYONEK NATIVE CORPORATION

4433 Lake Otis Parkway
Anchorage, Alaska 99507
(907) 563-0707

September 8, 1988

Mr. Rick Seaborne
Environmental Protection Agency, WD-136
1200 Sixth Avenue
Seattle, Washington 98101

Re: Diamond Chitna Coal Project, Draft Environmental Impact Statement

Dear Mr. Seaborne:

Tyonek Native Corporation ("TNC") owns a port site and dock at North Foreland, near Tyonek, Alaska. TNC has tried to encourage potential users to consider this facility for their needs. One of the possible uses of this port site would be shipment of coal from the Diamond Chitna Coal Project. TNC has discussed this possibility with Diamond Alaska Coal Company, but has been unsuccessful in attracting Diamond's interest in North Foreland.

There was some discussion of the North Foreland site in the Diamond Chitna Coal Project Draft Environmental Impact Statement. We would like to comment on this.

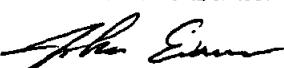
According to the Draft EIS, three port site options were considered, including TNC's North Foreland. We would like to know whether or not all three port sites were uniformly evaluated, using the same evaluation methods and standards.

The pier at North Foreland was constructed for shipment of wood chips and, as it is presently configured, would obviously be inappropriate for a large volume coal project. Ladd and Granite Point neither have port facilities, and therefore both sites would require construction of new facilities from scratch before coal could be shipped from either site. The North Foreland site, with its existing facilities already in place, would simply require modification to these existing facilities in order to ship coal.

The use of existing facilities (roads, dock, housing, etc.) at North Foreland would therefore appear to be cheaper and less environmentally damaging than new construction at Granite Point or Ladd. It is unfortunate that the analysis neglected to mention that modifications could be made to the North Foreland facility, enabling the pier and site to handle large volumes of coal. We believe that the North Foreland site should be considered a viable transportation alternative for the Diamond Coal Project.

Sincerely,

TYONEK NATIVE CORPORATION


John Evans
Executive Director

JKE:sm/crr.52

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Trustees for ALASKA

September 14, 1988

Rick Seaborne
EIS Project Officer
Environmental Evaluation Branch, M/S WD-136
Environmental Protection Agency
1200 Sixth Avenue
Seattle, WA 98101

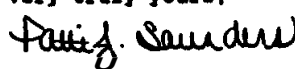
Re: Diamond Chitna Coal Project EIS, Draft NPDES Permits and 404 Permit

Dear Mr. Seaborne:

Enclosed are the comments of Trustees for Alaska and the Alaska Center for the Environment on the Diamond Chitna Coal Project EIS, NPDES permits and 404 permit. We thank you for granting us a two day extension of the August 13, 1988 deadline.

We would appreciate hearing your response to our comments.

Very truly yours,



Patti J. Saunders
Staff Attorney
Trustees for Alaska



Cliff Eames
Issues Director
Alaska Center for the Environment

cc: Julie Howe

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TRUSTEES FOR ALASKA AND ALASKA CENTER FOR THE ENVIRONMENT'S
COMMENTS ON TNL DIAMOND CHUITNA COAL PROJECT

I. The Draft Environmental Impact Statement

The National Environmental Policy Act ("NEPA") requires that an environmental impact statement ("EIS") evaluate the potential environmental effects of federal actions and identify alternatives to the proposal. The Draft EIS for the Diamond Chuitna coal Project does not satisfy NEPA's requirements, since its analysis is not thorough and is replete with factual inaccuracies, miscalculations, and unjustified assumptions. Following are some of the more glaring problems we have identified.

A. Alternatives

The discussion of alternatives is inadequate. For starters, the DEIS makes assumptions like "[there is] only one option [for the mine] since the coal deposit, and therefore the mine location, was fixed." DEIS p. 3-1. The DEIS completely ignores the possibility that the mine site could indeed be adjusted. Obviously, a coal mine will be located only where there are coal reserves, but the coal leases held by Diamond extend far beyond the areas planned for mining. Thus, it would be not at all impossible to revise the boundaries of the mine. And if doing so would avoid or mitigate environmental effects, the DEIS's failure to consider these alternatives is a serious flaw in the NEPA

major rutting area for the Lone Ridge moose herd and quality and quantity impacts on the Chuitna watershed. It is possible that either or both of those could be avoided or mitigated by adjusting the mine's boundaries.

A second major failure in this regard is the DEIS's failure to consider timing changes as an alternative. Diamond plans to open large pits and cuts and keep them open as necessary in relation to market demands. The DEIS should have considered whether a less grandiose mining scheme (or a more vigorous and timely reclamation plan) that would disturb less land over a given period of time and reclaim it more quickly would avoid or mitigate impacts.

Essentially, the DEIS is limited to consideration of the mine plan as proposed by the applicant, rather than on the searching and thorough analysis envisioned by NEPA.

B. The haul road seems to be unnecessarily wide. Why are 35 foot wide lanes and 12 foot wide shoulders required? The total width of the road including lanes, shoulders, embankments, and ditches appears to be about 110 feet -- more than enough for a four lane divided highway! The plan appears to be unnecessarily wasteful of gravel resources, and will result in the clearing of much more land than necessary, and increasing the magnitude of the difficult task of reclamation.

C. The conveyor end road corridor seems unnecessarily wide. A 200 foot wide 'greenbelt' is apparently plumed between the road and the conveyor. Diamond apparently plans to clear this 200 foot wide strip of timber for the 11-13 mile length of the corridor. The total width of the cleared strip containing the roads and the conveyor is almost 400 feet. There is no apparent justification for this wasteful use of resources and unnecessary negative impact on the environment.

D. The installation of a second road alongside the conveyor in addition to the superhighway 200 feet away does not appear to be justified. Diamond indicates that the conveyor access road is needed to allow maintenance of the conveyor so as not to interfere with haul road operations and vice versa. When the conveyor is in operation, there should be no need for use of the haul road. This inconsistency must be resolved.

E. Fugitive dust emissions from the conveyor do not appear to have been properly addressed. Total annual emissions from this source are estimated at 8.4 tons per year, while total annual emissions for the coal stockpile to which this belt delivers were estimated at 218.1 tons per year, or 26 times more at the stockpile. We believe that the conveyor emissions will be at least as high as the stockpile and probably higher. Moreover, this calculation is based on 99 trips per day even though Diamond

is planning on 311 trips per day.¹ This calculation must be reworked based on the mine plan's projections, rather than assumptions unrelated to reality.

Moreover, the DKXS, in addition to the miscalculation of fugitive emissions, takes the unwarranted conclusion that partially enclosed conveyors will "minimize" dust emissions (DEIS p.2-46). Unless the conveyors are totally enclosed, which we heartily endorse, emissions will not be minimized, only somewhat lessened.

F. Temporary overland truck coal haul fugitive dust emission calculations appear to be incorrect. The calculation assumptions do not consider the size and peripheral velocity of the wheels. This calculation is grossly in error and will be much greater than what is claimed. This calculation is also improperly based on 99 trips a day, even though Diamond is planning on 311 trips per day.

G. Exhaust emissions from temporary truck coal haul appear to be calculated incorrectly. The gallons per hour fuel consumption number is incorrect. The number of trips per day is incorrect.

¹Actually, it is not clear whether the actual figure is 311 or 331. Cf. DEIS p. 3-6 and 3-19. However, it is certainly not 99.

H. There are a number of other errors and inconsistencies in the segment of the DBIS on dust emissions. The wind speed data for different sites is presented with different units: Granite Point and the mine site's wind speeds are displayed in meters Per second, while the Anchorage and Kenai data are displayed in knots. This makes comparison difficult.

The validity of the emissions calculations based on nominal wind speeds of four to six miles per hour is doubtful. Examination of the Granite Point data shows that, during the winter, winds from the north and NNE average 4.1 meters per second (13.1 feet per second, or 11.8 MPH) for 58% of the winter season. The conveyor from Granite Point will return directly against the wind, thus adding its 5.08 meter velocity (11.47 MPH) to the wind velocity, for a combined relative velocity of 17.5 MPH.

Under these conditions the conveyor will be returning empty with loose dust on the conveyor, which will not be covered underneath. Prevailing winds in the fall, winter and spring are from the N-NE approximately 70% of the time at Granite Point and about 65% of the time at the mine site. Thus, the calculations of dust emissions have been seriously underestimated and the environmental impacts concomitantly discounted.

This is a serious flaw. It must be rectified in order to comply with NEPA.

I. The DEIS states that the Tuxedni National Wildlife
mine site. This is

incorrect. The Kenai National Wildlife Refuge is closer. Additionally, two state Game Refuges at Beluga Flats and at Tyonek are within 15 miles of the proposed mine site and within 5 miles of the proposed conveyor route.

J. The DBIS repeatedly states (e.g., p. 2-45) that drainage from shops, vehicle washdown areas, etc., will be routed to sediment ponds with treatment facilities. However, according to Figure 2-4, the sediment pond closest to the mine service area and vehicle parking/storage area will not have a treatment facility. This appears to be a significant discrepancy of serious concern, given the number of trucks and other vehicles to be used at this site.

K. Dust suppression chemicals are mentioned at several points without ever defining exactly what these chemicals are. What are they? What will be their effect on the environment? How much and how often will the chemicals be used? What will be the effect of these chemicals on local groundwater? On local streams? On wildlife? On fish?

L. Forested buffers should be maintained around coal stockpiles to minimize as much as possible the effects of winds.

M. now are coal stockpiles to be protected from forest fires?

N. Why is sewage sludge being buried in the mine pit rather than being incinerated?

O. The DBIS seems to lack any discussion of the potential water quality impacts of coal spillage from the trestle and barge loading area into the ports, which is inevitable, given that the facility will not (in its present form) be totally enclosed. The DEIS's failure to consider this and require mitigation is a serious flaw. since spillage of even a very small percentage of twelve million tons of coal a year could have very significant impacts on water quality and aquatic life.

P. The DEIS's failure to consider the applicability of the Clean Water Act's antidegradation requirement to this project is a significant flaw in the analysis.

Q. On p. 2-14, the DEIS states that the sewage generated at the mine facility will be treated and then piped over to the housing camp, where it will be discharged along with the sewage from the camp. Why then is Outfall 019 for sewage from the mine site (Draft Permit AX 004357-5)?

R. The DEIS's conclusions about compliance with Alaska water quality standards are based on inaccurate assumptions and must be rethought. For instance. Alaska's standard for pH is

between 6.5 and 8.5, with a maximum change of 0.5 from natural conditions, not 6.5 to 9.0, as stated in Figure 5-7. Also, while Figure 5-7 assumes the standard for dissolved solids is 500, 18 AAC Chapter 70 clearly states that the standard is a maximum of 1500 mg/l including natural amounts. but in no event greater than 1/3 higher than natural conditions. These are only the most glaring errors. The entire figure should be carefully and accurately redone.

Even as it stands. however, Figure 5-7 shows that Alaska's water quality standards will be violated. For example, it is estimated that dissolved solids in the effluent will be as high as 200 mg/l, while the maximum receiving water quality is 104 mg/l. Thus. the discharge will far exceed the 1/3 allowable increase on some undated frequency. And this is one of the parameters the DBIS does not project for exceedances, while there are at least several others that are. The DEIS does not even attempt to reconcile this prediction of potential violations of water quality standards with the favorable evaluation given to this project. Beyond this failure of the DEIS. it is, of course. unlawful for EPA to issue NPDES permits that will violate water quality standards.

The same sort of analysis done here for surface water also applies to the DEIS's poorly analyzed groundwater section.

S. The DEIS is completely silent about the excessive destruction of wetlands associated with this project. Many of the

facilities associated with this project could be, and therefore must be, redesigned to minimize **their impact on the Wetlands** in the area. For instance, **the housing layout proposed is** very inefficient and wasteful **of resources**. The footprint of **this** facility can be decreased by **50%**, thereby minimizing the wetlands acreage that will be destroyed. The **DEIS's** failure to consider **these** impacts and to **require** their mitigation is a serious **flaw** that must be rectified if this project is to comply with **NEPA**.

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II. Draft NPDES permits AK-004357-5, AK-004356-7, AK-004331-1, and AK-004685-0

A. None of the draft permits include provisions for a Best Management Plan. as **required** by the Clean Water Act.

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B. Effluent Limits

1. The permits do not include water quality based limits, as is required by Section 402 of the Clean Water Act. This is a serious omission that must be corrected before permits can be issued. Specifically, we are **concerned** about the **failure** to include limits for fecal **coliform** and chlorine residual for the sanitary waste discharges, and the pollutants of **concern listed** in the **DEIS** in **Figures 5-7 and 5-9**. In addition, **some of these** parameters ought to be included in the permit **under technology-** based considerations since they are found in the discharge. BPA

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ment of the Clean Water Act to

(such as, for instance, the **metals**). If they **are** not included in **EPA's** effluent guidelines, then limits must be set using **best** professional **judgment of** best available technology.

In accordance with **18 AAC 70.020**, the following **parameters** must be added to **those** listed in the draft **permits**:

1. **Fecal Coliform**

2. **Dissolved oxygen (greater than 7 mg/l for an anadromous stream)**

3. **pH range between 6.0 and 8.5 (not 9.0)**, with a maximum change of 0.5 from natural conditions

4. **Turbidity**

5. **Temperature**

6. **Total Dissolved Solids**

7. **Sediment**

8. **Toxic and Other Deleterious Organic and Inorganic Substances**

9. **Oil and Grease to all outfalls**

10. **Radioactivity** (Radium 232 is a common constituent of coal).

11. **Total Residual Chlorine (2 ug/l in salmonid waters)**

12. **color**

13. The stipulations specifying 85% removal of BOD5 and TSS do not appear to be in conformance with Alaska Water Quality Standards.

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B. The permits must be revised to include provisions for compliance with the zones of deposit requirements of 18 AAC 70.033.

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C. It is unreasonable of BPA not to set maximum flow limits for the sanitary waste discharges, based on the capacity of the treatment facilities. Thus, for the housing camp discharge, the flow limit should be 30,000 gpd, which is the capacity of the package plant Diamond intends to install. Failure to do this opens the possibility of overloading the system and resultant violations of other limits.

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D. EPA's failure to apply the antidegradation requirement of the Clean Water Act to this virtually pristine water system violates the Clean Water Act.

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E. It is not at all clear why Outfall 019 is necessary if the DEIS is correct in stating that the sewage from the mine site will be piped over to the housing camp to be mixed with the camp sewage and discharged there.

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III. 404 Permit

Diamond's proposed facilities are not well designed to minimize the incursion on wetlands. Given the size of this project and the amount of wetlands to be filled, such considera-

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tions must be incorporated into the project. We realize that some wetlands will, of necessity, be destroyed if this project is to go forward, but there is no justification for permitting the destruction of more wetlands than necessary. Diamond must be required to redesign these facilities to minimize wetlands destruction.

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Box 5
Beluga, Ak. 99495
September 8, 1988

Rick Seaborne
EIS Project Officer
Environmental Evaluation Branch, M/S WD-136
EPA
1200 6th Ave.
Seattle, Washington

Dear Mr. Seaborne:

Enclosed please find some comments of the Draft Environmental Impact Statement for Diamond Chuitna Coal Project. These comments are general - concerning the project in broad terms - and specific - referring to particular pages or section numbers in the EIS.

Thank you,


Tamara Snid

enc.

ccr Trustees for Alaska
Kenai Peninsula Borough Assembly members

DIAMOND CHUITNA COAL PROJECT

EIS COMMENTS

Chapter Two (Project Overview)

Proposed Transportation Option81

1. Northern/Ladd route contains two crossing of Three Mile Creek (The only Sockeye Salmon spawning grounds in the area at Three Mile Lake). This stream is spawning grounds for Sockeye, Silver, Chin and Pink salmon as well as bone for trout and other fishes, waterfowl, including loons and swans. This route also crosses Lone Creek (spawning grounds for rainbow and Dolly Varden trout and various species of Salmon).
2. Eastern/Ladd route crosses Lone Creek, goes near Viapan Lake and through the surrounding wetlands (nesting area for swans, terns, cranes, loons and other waterfowl).
3. Southern/Granite Point route crosses Chuit and old Tyonek Creek (major spawning grounds for salmon) and wetland area.

Location and Size of Mining Area:

The entire west side of Cook Inlet has the soft, lowgrade coal to be mined by Diamond Chuitna. Does this mean that the entire west side should be mined? Other sources of cheap, more environmentally-sound energy supplies are available without destroying virgin timber (for the most part), wetlands, salmon spawning streams, large game habitat, to say nothing of the destruction to our atmosphere when this energy source is used..

Revegetation:

Wetlands can not be revegetated as wetlands.

Run-off:

EIS statements on runoff are accurate; the mine area would not receive runoff but would cause polluted runoff to lower elevations..

2-9 "[Treated water] would be released from the ponds into natural drainages" to go into streams changing water temperature and density, regardless of treatment. Note this which admits that treatment will not clean the water; "the sediment ponds would be dredged periodically..."

2-19 drawing and details of port facilities show only the Granite Point option.. Details should be shown for all options.

page two

2-31 (stockpiles) "All stockpiles would be located within the mining limit..." This is untrue according to lease options from Kenai Peninsula Borough.. Coal would be stockpiled around Viapan Lake and Ladd Landing.. No EIS on this has been done.

Table 2-1 Diamond Chitna Would "minimize use of construction and mining in streams other than those designated for mining." Those designated for mining include major trout and salmon rearing grounds.

2.11.1 "At lower production levels not requiring ships, barges would be berthed at the Ladd trestle for up to approximately two hundred days per year." Ladd option is stated only as an option without complete US for various environmentally aspects. Also note that two hundred days is almost 2/3 of one year.

2.11.4 (Slash burning) Anchorage area suffers enough from air pollution already without slash burning of this magnitude with or without favorable weather conditions.. The atmosphere as a whole would suffer.

2.11.6 (environmental coordinator) It seems reasonable (same) to have this person stationed on-site to coordinated environmental safety, not in Anchorage to ensure the paperwork gets done expeditiously.

3.2.1.3 (transportation) Six options were listed but there is no EIS on each with pros and cons and the most environmentally sound option (piped slurry) is summarily dismissed at that point.

3.2.1.4 This discusses the loading facility as if transportation option I6 the conveyor- were the only option.

Table 32 lists possible environmental hazards to options not shown but does not list the environmental hazards of option 6. This table also shows that North Foreland port location was eliminated.. Actual blasting by Northern Geophysical (August 30 - September 9, 1988) shows that only the northern transportation route is now an option.

Table 3.6 has a cursory look at some transportation modes and states that a road would have high adverse impact. Coal company officials have stated in public meeting that a road will be used for coal transportation for some time.

Table 3-9 has matrix listing impact of three transportation corridors. On this table the Eastern/Ladd is shown to have the least negative impact. However, blasting by Northern Geophysical for Diamond Chitna has shown that the Northern/Ladd route is the preferred option at this point.

"While the overall potential for adverse impacts was judged higher for the northern/Ladd alternative, it was not a clear cut difference." (3-35) This is a value judgement not based on fact.

page three

4.4.4.2 (fish) "At present resident species are not significantly exploited in the project area. Fish (trout and salmon) that are fished elsewhere use that mining area at some time in their lives as spawning or rearing areas.

4-38 to 4-41 Documentaries of salmon in 1983 and 1984 by Alaska Department of Fish and Game did not typify subsequent years of salmon returns.. This underestimates the proliferation of fish.

4.6.2 Air quality studies were done in already polluted areas and not in mining and transportation areas.

4.7.2.5 (Community attitudes toward Diamond Chitna) No survey of local residents and land owners was done. Value judgements were made. Thus, I will make another: Tyonek residents' prime concern is the destruction of moose and fish populations and habitat. Beluga area land owners and residents were not mentioned in the EIS.

5.3.1.5 (wildlife) Habitat loss- a value judgement was made as to the relative impact of the loss.

5-12 (wildlife) "In unusual cases, they may be killed." (6.31.3) This can be construed as a way to defend killing of moose and bear for sport and meat.

5.3.2 (water quality) Diamond Chitna officials have stated that water quality will suffer

5.3.3 (Marine Environment:) "There would be no impacts to the marine environment associated with the mine and mine facilities." As mining affects streams and surface and ground water, it would affect marine environments. The water cycle and air current would ensure that marine and all other environments would be affected.

5.3.4.1 (emissions) The state has petitioned to change its emissions standards. Could that have been to allow this mining to go on?